

# ARCHITECTURE

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## The Fireplace and the Grate

*By Arthur Todhunter*

IN connection with any discussion of the grate, it is necessary to consider the history of the development of the fireplace in English domestic architecture.

During the twelfth and thirteenth centuries it was the custom to burn a fire upon a large stone hearth in the centre of the main dining-hall. Around this fire gathered the lord and his retainers, who roasted their meat upon spits

attached to the fire-dogs. At night, upon a bed of rushes, with a covering of coarse cloth, they slept with their feet to the fire. The smoke

which rose to the high, open, timbered roof of the hall was carried

off by a smoke-louver, an aperture in the roof directly over the fire, capped

by a small tower in which were openings to the outer air.

In obedience to a law passed by William the Conqueror in 1068 as a measure of fire prevention, the curfew, a metal hood or cover, was placed over the fire when the curfew-bell rang at seven in the evening.

The fuel of this period was wood or peat, the logs resting upon a pair of coupled andirons.

Instead of a log fire, an iron brazier was later used in which charcoal was burned. It is in this brazier that we find the first form in which a grate was used.

During the thirteenth century a distinct development of the fireplace is noticed. A back or hob was erected against which the fire was built. In the latter part of the century, due to the building of houses of more than one story, this was moved from the centre of the hall to one of the side walls, a projecting canopy of stone built above it, and a throat or flue constructed which discharged the smoke through a hole in the outer wall.

By the end of the fourteenth century we find that the fireplace recess has become gradually deepened, projecting beyond the outer wall. The canopy has vanished and a chimney is built up against the outside of the wall.

We now have practically the same type of fireplace that is used in the present day.

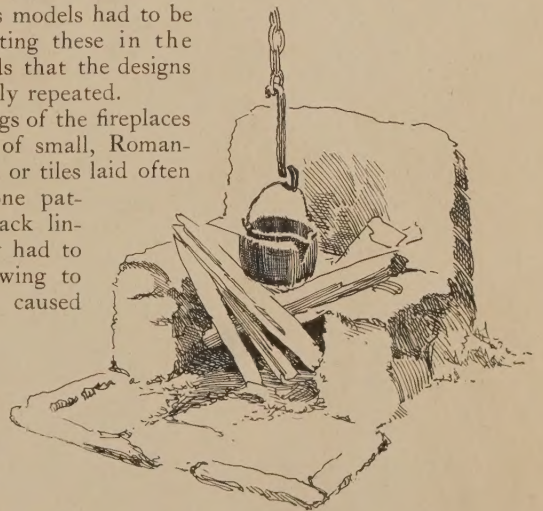
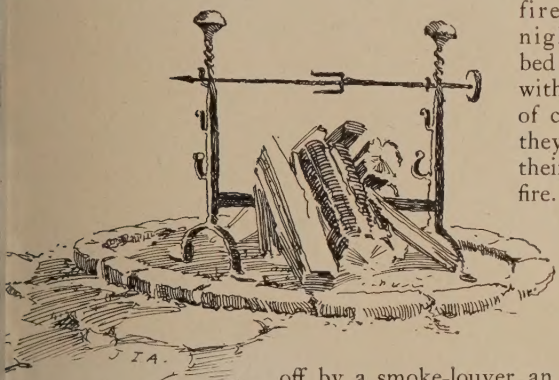
On the raised back hearth, bounded often by a stone curb, were placed andirons to keep the logs raised from the hearth so that the draught of air might pass beneath them to make them burn more readily. These andirons, at first merely designed for practical use, were, during the sixteenth and seventeenth centuries, made more decorative. The smiths of the period turned their attention to the fashioning of elaborate andirons in wrought iron, with a series of hooks on which to rest the spits for roasting meat, and topped them with heads of men or animals. Many interesting tops are found in brass in the shape of balls, disks, or rosettes, the latter often pierced to represent flowers. Another form is found with open, cup-shaped top, the use of which was apparently to support a torch formed of a bundle of twigs.

In the early part of the sixteenth century iron foundries were first started in the Weald of Sussex, and a greater elaboration of design was found possible by using the new material. Many interesting examples are still to be found of what are known as Sussex andirons. As models had to be made for casting these in the sand, one finds that the designs were frequently repeated.

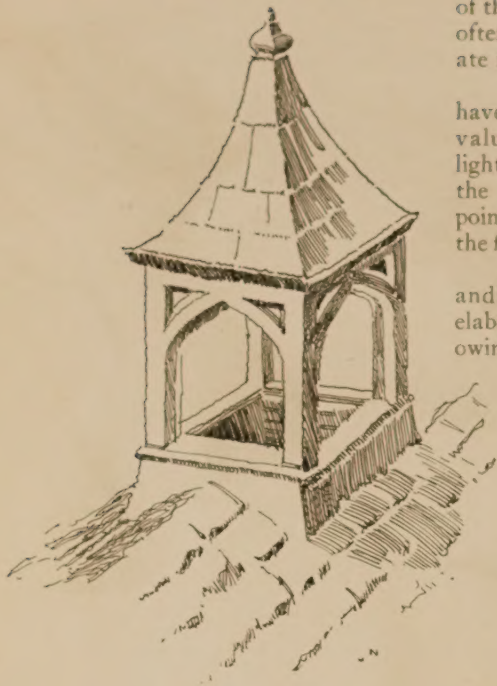
The linings of the fireplaces were usually of small, Roman-shaped bricks or tiles laid often in herring-bone pattern. The back lining constantly had to be rebuilt owing to disintegration caused by the fire.

With the perfection of the art of casting iron, new uses were found for this material, and we find employed at first simple and later very elaborately decorated

iron firebacks, which were used to protect the back lining from the greatest heat of the fire. On the firebacks were displayed either the coat of arms of the owner or those







of the reigning sovereign, often with an appropriate motto.

These firebacks have great decorative value, not only when lighted by the flame of the fire, but also as a point of interest when the fireplace is not in use.

As time went on the andirons became more elaborate in design, and, owing to the development of the separate kitchen, the spit-hooks lost their use and were omitted.

During the seventeenth century rare and costly metals were employed in their manufacture, as illustrated by the solid silver andirons at Knole House.

So elaborate were some of these andirons that they could not be used to support the logs owing to danger of their being ruined by the heat of the fire. "Creepers," or small and serviceable wrought-iron andirons, were then used, which did the work of their more highly ornamented brothers, which were stood forward on the hearth merely as a decorative feature of the fireplace.

We also find many examples of wrought iron with polished brass disks, which are often elaborately pierced with representations of flowers and foliage. One of the best examples of these is to be found at Haddon Hall.

Coal, which was first used in England in the beginning of the thirteenth century, had a great influence upon the development of the English fireplace.

At first its use was not properly recognized, and up to the beginning of the sixteenth century it was only used in conjunction with logs. However, during the reign of Queen Elizabeth, a scarcity of wood for building purposes began to be felt, and this naturally turned attention to the use of coal as a measure of conserving the supply of useful timber. The blacksmiths of the period began to turn their attention to the production of iron baskets in which to burn the new fuel.

One of the earliest forms of this basket is to be found at Haddon Hall. It consists of a grating raised from the hearth on four legs with the front and two sides enclosed by a railing in the form of vertical spear heads. This, when set against the existing cast-iron fireback, formed a receptacle for the combination of coal and logs.

The andirons apparently were stood on either side of this basket, serving merely a decorative purpose, although they were at times used as a means of support instead of the feet of the grate. This is the forerunner of the eighteenth-century dog-grate, that is, a grate set upon fire-dogs, another name for andirons.

In some cases we find that, owing to the scarcity of

large logs and the need for only a small fire space in which to burn coal, they reduced the size of the fireplace by building stone hobs on either side. The space between the hobs was then enclosed by a series of vertical bars attached to a grating, which raised the coals from the hearth. One of the earliest and best examples of this is to be found in the dining-room of Haddon Hall. In this we see the beginning of that type of hob grate which found such favor in the latter part of the eighteenth century.

The opening of the eighteenth century saw a further development of the wrought-iron basket into what we know as the dog-grate. To the plain basket the designers of the period gradually added further embellishment. They took the old cast-iron firebacks and onto them built a basket whose front was supported by andirons, or fire-dogs, the log bars being curved in and joined for this purpose. Under the bars were placed aprons of brass or steel pierced with geometrical or foliated patterns. Along the top bar were often placed vertical spikes, which were intended to prevent the logs, which were still used to a small extent, from falling on the hearth. The designs of these dog-grate fronts were changed according to the prevailing styles, those of the late seventeenth century showing the influence of the strapwork used in the decoration of the mantelpieces, and this gradually changed to the simpler forms of the early eighteenth century, which in turn gave place to the more flamboyant type of the Chippendale period in the middle and the delicate Grecian models evolved by the Adam brothers and their contemporaries at the end of the century.

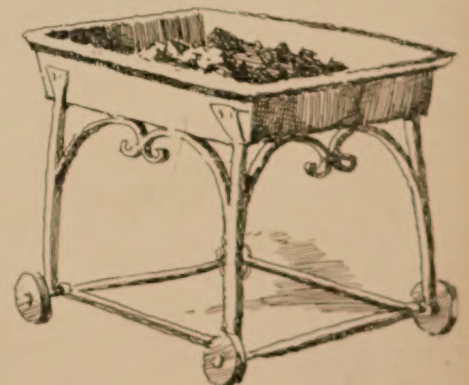
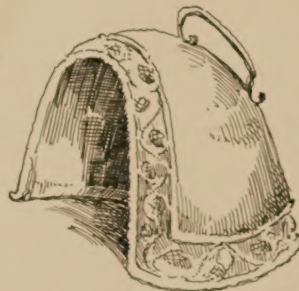
The hob grate passed through similar stages of development to those of the dog-grate, the stone hobs being replaced by castings in iron which were modelled to conform with the carvings and general decoration of the mantelpiece.

The manufacture of hob grates reached its highest perfection during the time of the Adam brothers. At the Carron foundry in Scotland, which was founded in 1759, a special feature was made of these grates, and a large number of the old grates which we now find have the name of this factory moulded into the castings. Full justice was done to the delicate and intricate ornament of the Adam brothers by the iron founders of this period, who turned out very clean and

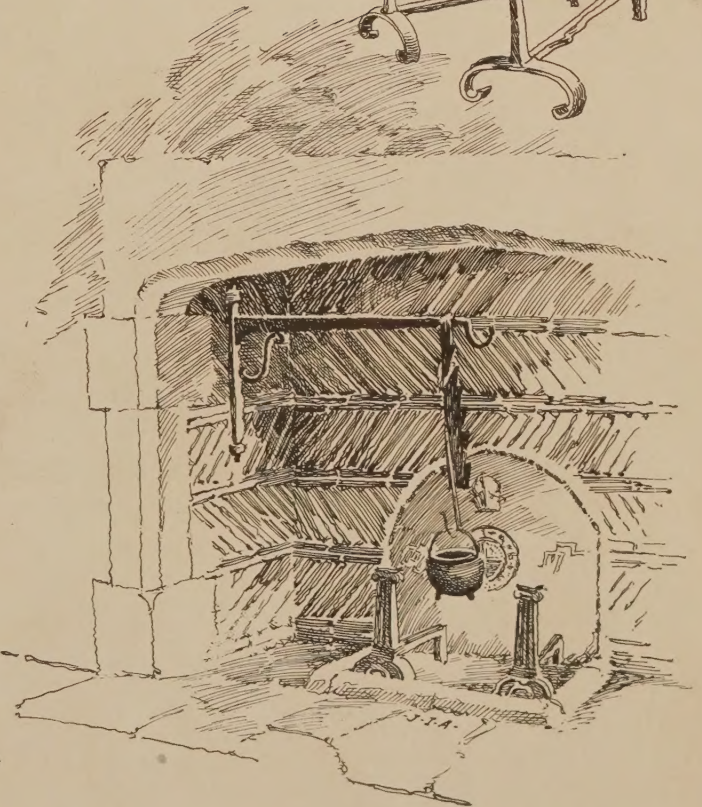
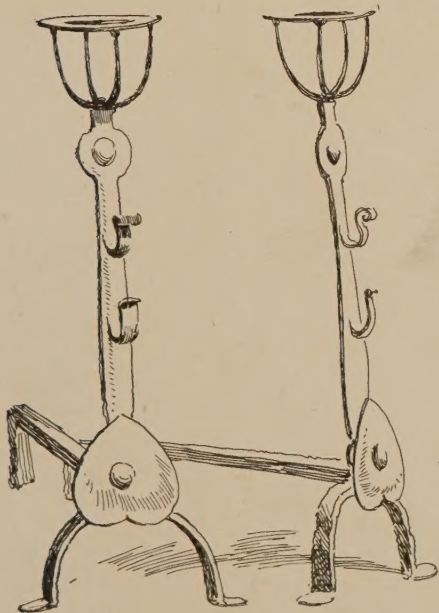
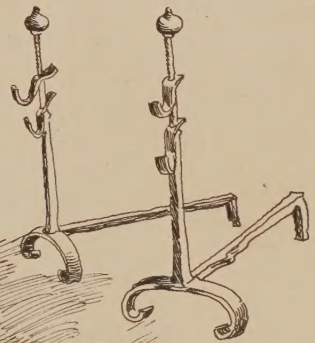
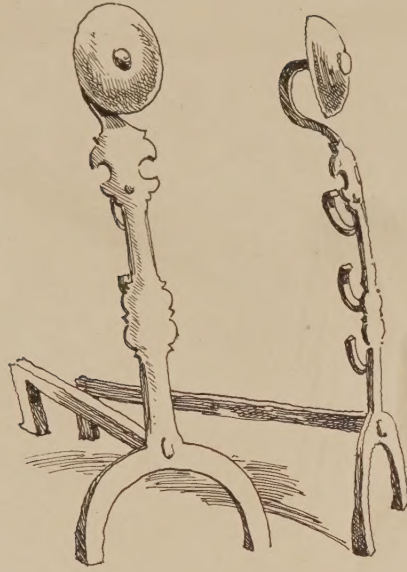
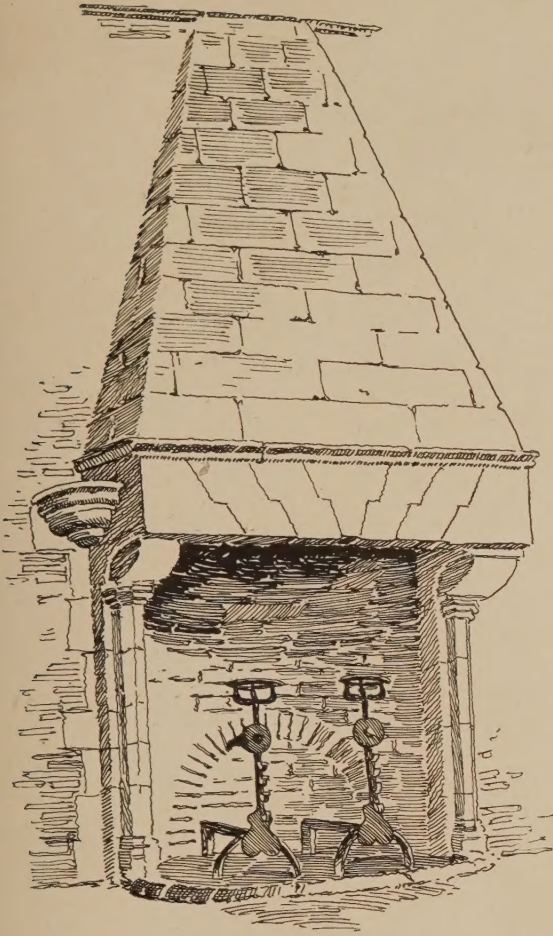
sharp-cut castings, which, when black-leaded and fitted with wrought-iron bars and brass or steel fretted aprons, formed most attractive grates.

These hob grates were set in the fireplace with linings of plaster, cast-iron, or Dutch tiles, the latter being particularly decorative. Owing to the fact that most of the heat of the fire is contained in the basket in which the fire actually burns, it is not necessary to use a lining of great fire-resisting qualities.

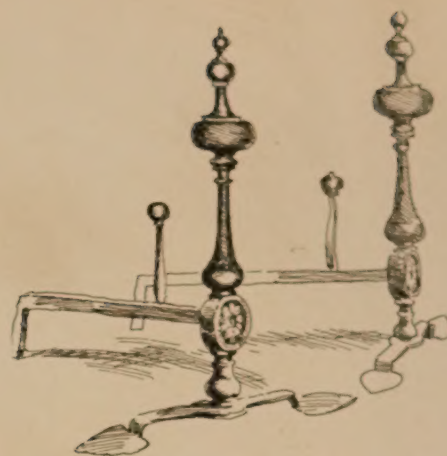
An evolution of the hob





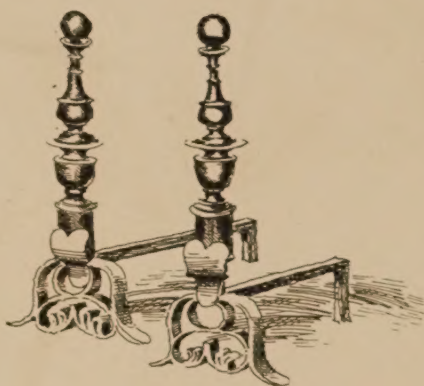






grate was the register grate, so called because it was provided with a register or damper by which means the draught of the chimney might be controlled. It was found that, owing to the fact that the hob grate raised the fire nearer to the flue, a large proportion of the heat escaped up the chimney.

Register grates usually had a band of either steel or brass about four inches wide which formed the outer edge of the grate and was used to display examples of the engravers' art. Delicately chased swags or husks with rosettes at the corners and a pierced and engraved apron are favorite forms of decoration.

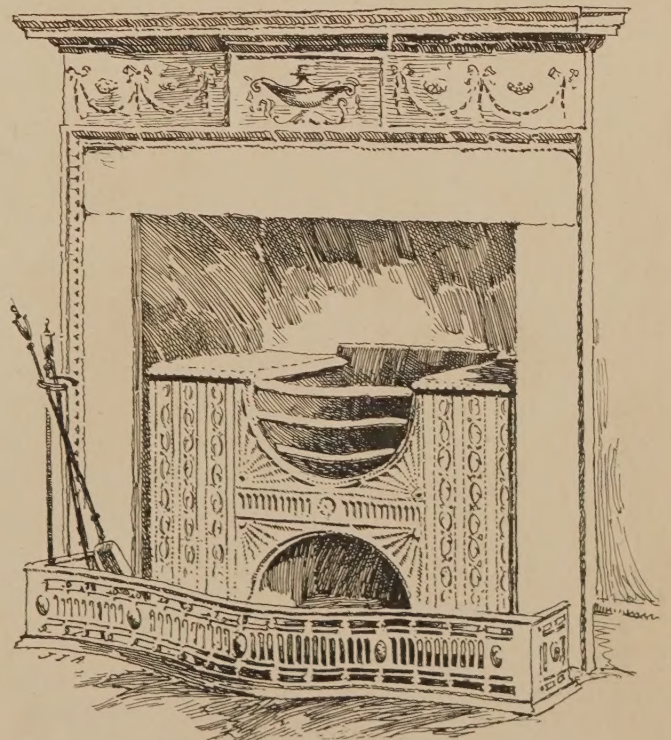
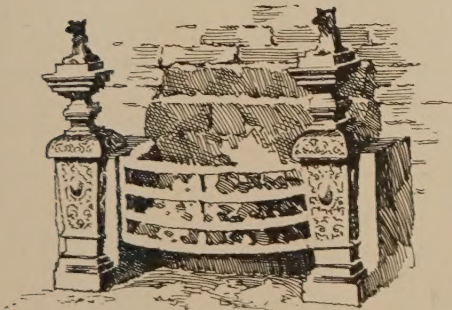
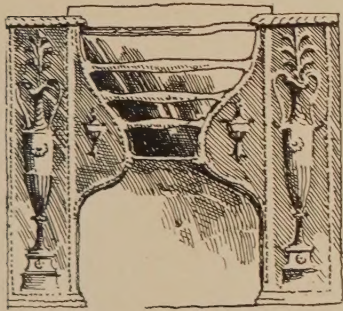
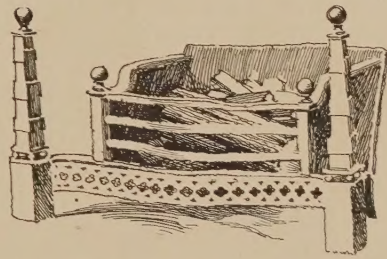
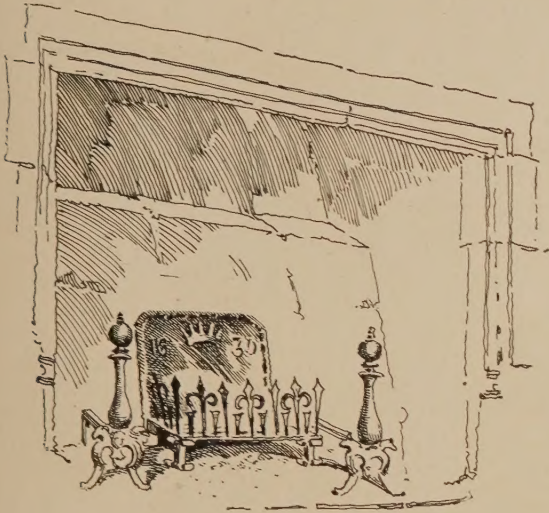


Pierced steel and brass fenders were produced to match the frets used under both dog and register grates, those in use with dog-grates being usually of serpentine or bowed shape without ends, while for the register grate fenders with ends and iron pans were made, the latter to prevent the red-hot coals from falling on and discolored the marble hearth.

Fire tools in sets of three pieces—poker, tongs, and shovel—were found necessary to handle the coal and ashes, and were made of either steel or brass, with handles in the form, often, of urns, the pan of the shovel being pierced, sometimes with the honeysuckle, a favorite design of the Adam brothers.









## Speculative Building and a Suggestion

**S**ALESMANSHIP has been defined in some quarters as the art of making people buy things they do not want. But while this undoubtedly requires considerable skill and ingenuity, the modern tendency seems to be rather to find out what people do want, and supply the want almost before it becomes a conscious one. The older theory took account only of immediate profit; the newer one, on the contrary, looks to the upbuilding of a permanent market by establishing confidence in the product and its producer.

This progress, as yet, seems hardly to have touched the field of speculative building. The speculator does not look to the future; for him the present is enough. He builds badly, with the intention of selling the structure before its defects become apparent through daily wear and tear. What if the floor joists will begin to sag in a few years, if the plumbing is defective and will soon need replacement, if the buildings are ill planned and soon will be unrentable? He has sold them long before that and is building others, no better essentially, but more salable because they cater to a newer group of fads.

In the field of apartment-house building the speculator has done his worst, as any of our cities will bear witness. Him we must thank for the three-decker, for the flat seven rooms deep, for the rear tenement, for the blind alley and the fourteen-foot street. For, in the beginning, the speculator is not only builder but city-planner as well. He lays out the new addition on farm land, and sells it as building lots before a street has been graded or paved. And he knows but two types of plan, the gridiron and that variety of irregular plan which most closely resembles a mass of angle-worms.

The speculator's object is obvious. He tries to sell a given piece of ground at the greatest possible profit, and to this end squeezes in the largest possible number of lots, or of rooms, irrespective of whether they are well disposed or not. Tenement-house laws he will comply with when he must, but he will never give more than the strict minimum the law requires. And his works outlive him for the discomfiture of future generations.

At the present time the speculator, in certain fields of activity, must meet with the competition of the philanthropist, or of the investor who builds for permanent in-

come and not for immediate profit. Model tenements are growing up that are truly models, where the poor may live under clean and healthful conditions at a price within their means. The wealthy, also, have little difficulty in satisfying their most luxurious desires, where price becomes a matter of little moment.

There is, however, a great and growing middle class, for whom little provision seems to be made. The clerk, the small tradesman, the less prosperous professional man above all, is scarcely considered in the building of apartments. The tendency is to extremes, and this class, falling between the two, is forgotten.

Consider, for instance, the young man, possibly a college graduate, who is living, and even hoping to raise a family, on a salary less than the wages of many unionized mechanics. He is a person of some culture and refinement, and demands surroundings in accord with his nature, at a necessarily modest rental. What does he find? Either he must live in a suburb remote from his work and lose hours every day in travel, or he must put up with unattractive lodgings, often at exorbitant prices. The model tenements offer him well-planned quarters, but with neighbors whose manner of living is scarcely in keeping with his own. The modern apartments are unduly expensive, and the older ones are notoriously ill planned, badly constructed, and decorated in the extreme of bad taste.

Can nothing be done to remedy this situation? It is certainly worth while to do something. For upon this professional class, more than upon any other, devolves the future of the nation. It is the architect, the engineer, the artist, the writer, the teacher, the educated man in all lines of endeavor, who must form the future of the nation. Comfort and pleasant environment he demands and is entitled to; luxury he does not demand. Why should not some of our public-spirited millionaires provide for him? They would be forwarding the progress of the nation, helping a worthy and valuable class, and making a very safe and profitable investment for themselves and their heirs. Well-constructed, simple buildings, in good taste, and located with judgment, should endure for years with almost no depreciation in value.

## America Not to Repeat England's Blunder

**A**MERICA is not going to repeat Mr. Lloyd George's colossal blunder. Chicago, with characteristic energy, has started a "Build as Usual" campaign. A preliminary meeting has been held, participated in by the Building Constructors Employers' Association, the Illinois Chapter of the American Institute of Architects and the Illinois State Society of Architects. Committees have been appointed whose duties will be to make a thorough inquiry into the present building conditions and to formulate reports for consideration. Federal authorities have emphasized that the Government desires all projected building operations to proceed without interruption. Mr. Howard E. Coffin, a member of one of the advisory committees of the Council of National Defense, has said: "Unemployed and closed factories, brought about by fitful and ill-advised campaigns for public and private economy, will prove a veritable foundation of quicksand for the seri-

ous work we have in hand. It is evident to every thinking man that our industries on the farm, in the shipyards, in the mines, in the factories, must be more prolific and more efficient. We need prosperity in war-time more than when we are at peace. Business depressions always are bad and doubly so when we have a fight on our hands." Men who are best informed as to the economic conditions now prevailing share Mr. Coffin's opinion. There should be no cessation of activity in any of the phases of building unless it can be shown that they interfere with the Government's plans for the progress of the war. Action such as has been taken by the Illinois architects and builders will foster a feeling of confidence and safety. It would have done so here if our own organizations had long ago united to ward off the staggering blow dealt to the second great group of industries in the realm.

*From "The Building News," London.*



## Planning to Module

PLANNING to definite module is constructionally sound and economical. In a sense, we always thus plan, since the module of the practical designer is not half a column's diameter, but the standard unit of measurement. So long as we draw our plans to a "scale of — feet to an inch," we, in a way and to a degree, design to module. Our ideas here, however, have reference rather to the consistent adoption of unit distance, as between window or pier centres. In steel-frame construction, especially, considerable economies are effected by adopting, so far as possible, a set distance between stanchion centres. The work of the designer and his calculations are facilitated, but the economies secured are chiefly on the score of labor in preparation and erection of the structure. By maintaining a regular distance from stanchion to stanchion, and so increasing the number of beams and supports that can be cut to uniform length and holed to template, work in the engineering shops is very considerably lessened. The practice facilitates the adoption of a standard joist or steel section for stanchions, strengthened solely by means of added plates and riveting to meet the increasing loads in lower stories. Connections and bolt-holes to similar detail, being required in quantities, "jigs" can be employed in machining, considerably expediting and lessening the cost of work prior to delivery on the building. Erection and bolting up *in situ* are accelerated. All this means time and money saved. Just as standardization reduces cost of machinery manufacture, the introduction, so far as practical requirements of plan allow, of a system of uniform distances between points of support helps to keep down the cost of steel framings. Obviously, to a greater or less extent the arguments hold good for all modes of building construction.

In addition to economy in construction there are architectural reasons why we do well to cut our designs to a self-imposed standard or module, or to a standard imposed by practical requirements of plan. We by this means go at once a long way toward insuring true architectural effect, which, being at root founded on order, is plainly so where unit part repeats. The more the architect brings his architectural inspirations under rigid rule, the more he honors this root-cause of the architectural as distinct from haphazard, disorderly, and nondescript building. In architecture, again, there are two very obvious rules of design—one demanding, for vertical division, irregularity and contrast, the other, for horizontal spacing, requiring regularity and monotone. Now, since all things seem mainly appreciable by contrast, the true opposition to regular division would appear to be the irregular. When we say that such and such is regularly divided, we *ipso facto* institute comparison with irregularity. Hence we should be able to enhance the value of irregular division by regular monotony; and it may be that, besides contrasting literally with horizontal lines, the vertical lines of a building, being, as we see, of necessity equal-spaced, for order's sake, are a foil to the varied dimension in horizontal strata. We may perhaps compare this to cases where, as an exception, vertical features are the subject of regular division, and in opposition to the main irregular stratification. It is conceivable that an imposing pier or piers, regularly rusticated every foot, say, acts as foil to the varied and contrasted dimension and proportioning of features such as cornices, string-courses, caps, and bases. If this idea meets with the approval of the reader, we might suggest, further, that the great monotonous uprising of vertical spaces, equi-intervalled, the

result of strict module planning, exalts the effect of contrasted and irregular distances of horizontal lines, which varied stratification, gracefully accomplished, seems possibly a part solution of the mystery of architectural "proportion."

There are other advantages attendant upon the adoption of special and consistent module in planning. Mental labor is lightened by early decision on some principle of plan division. The practice is advantageous to the architect, with his multifarious duties. Given a base from which the module sets out, such as a building line or other fixed point and direction, the immediate decision upon a ruling dimension between void or support centres affords the mind, searching for a key or solution to a plan problem, an anchorage. Whatever else eventuates, the planner has decided on a module; and, so far, his mind is freer from harking back and forth in search of master and secondary keys. Something, at any rate, is decided, say a 10, 15, or 20 foot module. The relief is somewhat of the nature of that we experience in planning alterations and additions; for in this case existing walls and features to be retained form a definite basis for mental operation—we are perforce tied to certain ways, generally obvious. Potential variables are reduced in number.

In planning, then, to definite module we decide on such module for bay or opening, of such size as may suit practical requirements and mode of construction, and so far as possible adhere to this throughout. In this way we not merely lessen the cost of construction, but, looking back into the past, we are only following in the footsteps of the designers of the world's great and famous buildings. Equally in the cathedral or the power-house, the consistent module makes for effect, allowing here some measure of the æsthetic in an orderly array of upended steel joists. In endeavoring to gain a standard distance between stanchions and to maintain, in unbroken series, voids and supports, we are in no way acting differently from the planners of great cathedrals. If, in such, a crossing was desired, bays were eliminated, and more powerful arches spanned the increased void; and so, where practical exigencies demand large apartments, we must obliterate some of our module points, strengthening other pillars and increasing the section of girders. To be most in accord with the principle we need to make the larger apartment a factor of the unit dimension.

It is an error to suppose that it is *infra dig.* to put oneself under rigid module in planning. In truth, it is a safeguard and a guarantee of ultimate dignity of effect. The grandeur of architecture is foreshadowed in the pricking-off, with set dividers, of aliquot parts of a whole dimension. We all greatly admire the majestic colonnade; but, after all, it is but the presentation to the eye of the most primitive of mathematical series—1, 1, 1, etc.; and the same may be said of Gothic arcading, or any repetition of similar span arches. The amount of dignity in architecture seems to be directly as the plane of order. Monotone in horizontal division gives us "breadth," as something opposed to petty change and patchiness. "Scale," again, in architecture, is concerned with the distance adopted between supports. Scale seems little more than a function of module.

Lacking something in the nature of datum, or *point d'appui*, such as we find in altering old buildings, the module system of design will be found advantageous, more especially in the orderly evolution of complicated building plans.

*From "The Building News," London.*

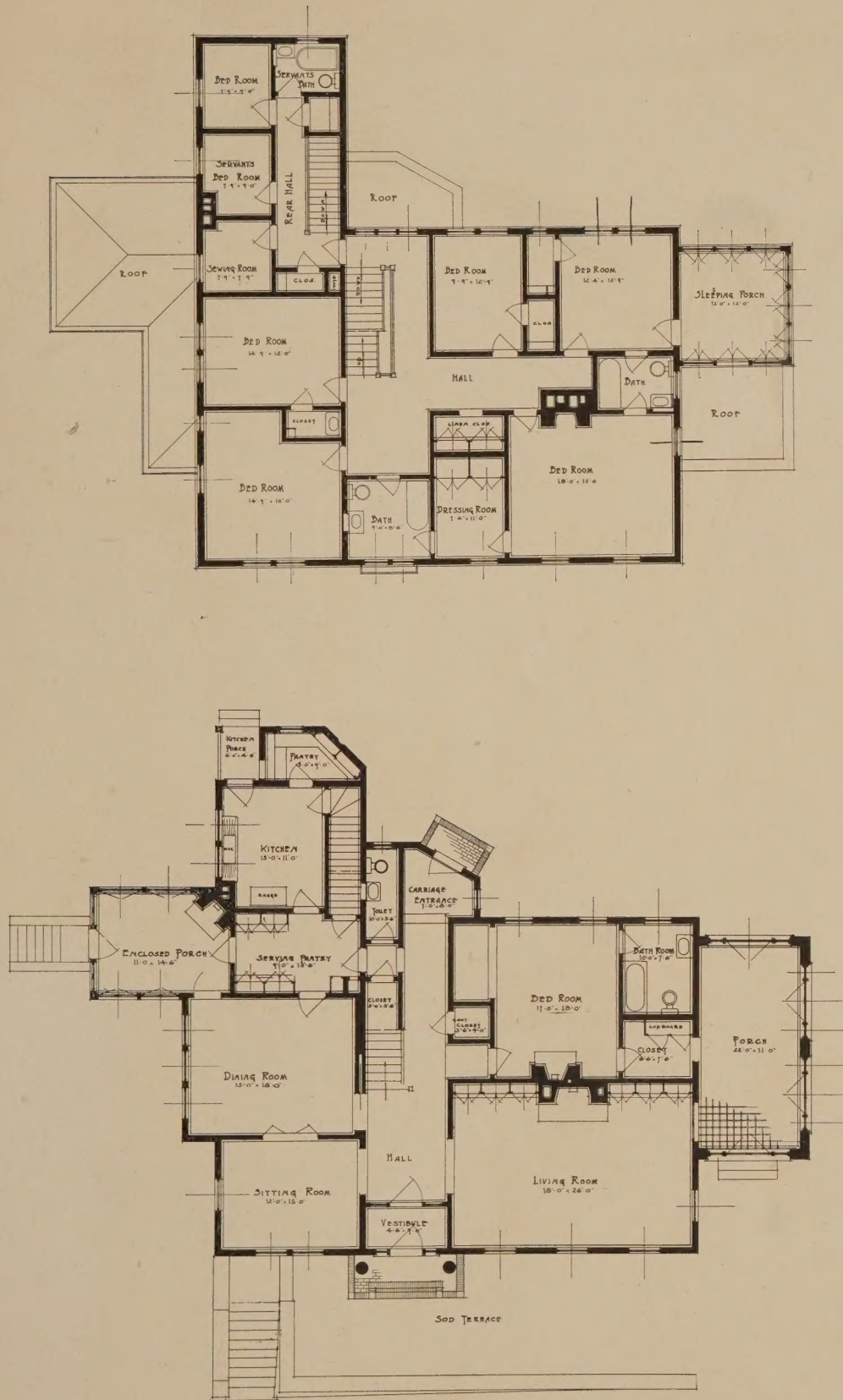




HOUSE, GEORGE HUNTINGTON, ANN ARBOR, MICH.

Smith, Hinchman & Grylls, Architects.

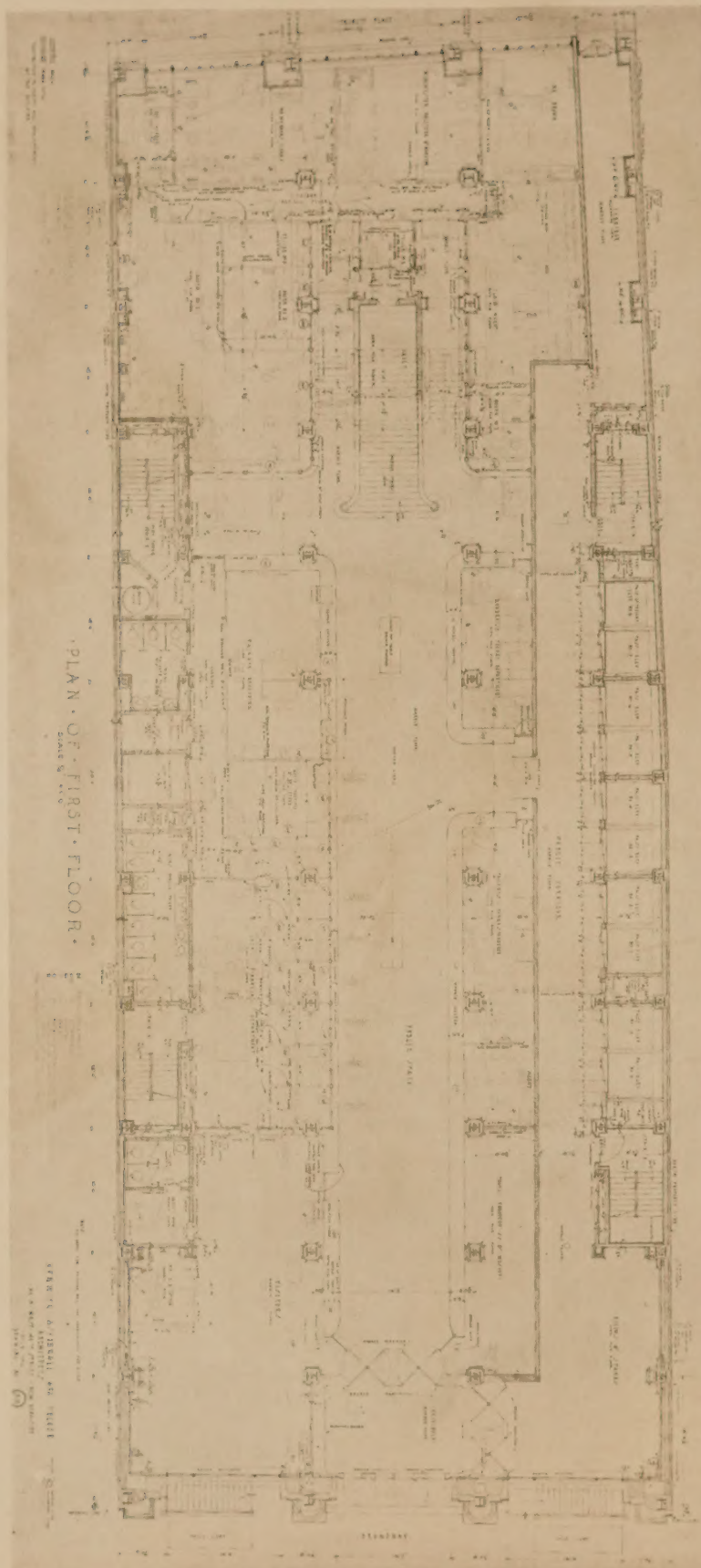




PLANS, HOUSE, GEORGE HUNTINGTON, ANN ARBOR, MICH.

Smith, Hinchman & Grylls, Architects.





PERSPECTIVE AND PLAN OF FIRST FLOOR, OFFICE BUILDING FOR AMERICAN EXPRESS CO., NEW YORK.

Renwick, Aspinwall & Tucker, Architects.



# ARCHITECTURE

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## Editorial and Other Comment

### *The Value of Criticism*

IT takes a man who practises architecture in a small city or a large town to appreciate the value of criticism. In places like Chicago or New York or Boston or Philadelphia or San Francisco or Los Angeles, where there are a very considerable number of practising architects of high quality, and where competition, if not less keen than in the small city is at least less personal, there is a very considerable interchange of opinions and experiences between architects, and men become accustomed to depend upon criticism of their work. On the other hand, in a small city there will very likely be only a half dozen practitioners, and two or three of them will be of the scamp variety—the kind that go after every job they hear of, whether it belongs to some one else or not—and as every one knows every one else very well, and as every one's business is talked about in the usual small-town way, a man is apt to keep his work pretty well to himself; and unless he has a competent office force to act as critics, he necessarily plays a lone hand. The value of criticism is, perhaps, not so much direct as reflex. One very seldom gets from another man advice which is of constructive benefit to the design, but one very often, in presenting his work to other architects, thinks out the problem more keenly than he does when he has no one but himself to satisfy, and finds that he must assign definite reasons for everything that he has done. He looks at his work with a new eye, a sympathetic one, to be sure, and yet at the same time with a much more critical gaze than he has before bestowed upon it. He sees added force in the things which are really good, and he sees the lack of reason where none exists, so that in all probability poor criticism is better than none at all, and none is very bad.

The man who has a large office presumably has draughtsmen who have an intelligent view of architecture. They may not be very good draughtsmen; they may be incapable of design on their own part, but they may be excellent critics of other men's work; and the practising architect should encourage the freest, fullest, and most complete expression of opinion from his draughtsmen; sometimes he will find that they make the best critics. On the other hand, it is a rare draughtsman who will criticise the work of his employer with the same freedom with which he would criticise the work of others, and, because he is in too intimate contact with the work, is apt to be influenced by his employer's ideas and fails to see fallacies which are clearly apparent to the outsider.

It is impossible to state what constitutes good work, for what is to-day generally recognized as being good work may, in fifteen or twenty years, be regarded as a mere faddism. On the other hand, it is probable that a consensus of opinion among the practitioners of any art will agree fairly closely

with the view eventually held by posterity, and it has been interesting to find that competition juries chosen from men of widely different conceptions of the ends of art, and coming from localities physically far separate, will agree with practical unanimity as to the three or four designs which may appear the best out of (let us say) two hundred, and will even in most cases agree on the first choice.

Direct and personal interchange of opinions between equals in professional standing is bound to exert a beneficial stimulus upon the creative talent and sense of good taste of every man who receives it. Unfortunately the men who are most in need of such stimulus—the men in the small cities—are the ones who are least likely to obtain it. The small city architect, unless he keeps himself very well in hand, is liable to fall into a rut, and this is especially true of the better men. They surpass their immediate competitors so far and so completely that they are too apt to fall into a complacent state of mind regarding their own worth and to progress, if at all, in a wrong direction. Of course, the only criticism which such men habitually obtain is self-criticism; and although comparison of one's work with other work illustrated in magazines as a basis for self-criticism cannot be too highly rated in the larger cities, it is even more important to the small-town architect. He is the man who must exercise most supervision and inspection of his own work, for he won't get it from other people. Nor can this point be too highly stressed. Over and over again we see draughtsmen of the greatest promise go out from the offices of men in large cities to begin practice in smaller ones and do admirable work for a few years; then, falling off little by little, they unconsciously absorb the standards and view-points of the men with whom they come in daily contact, so that they drop away from the large current of architectural design into some eddy or back water; as an influence on the whole trend of architecture their work is negligible.

No man in a large city can entirely escape the influence of his fellow practitioners, and even the men who isolate themselves from the balance of the profession are bound to react to current tendencies. In the first place, because they see daily examples of executed work of a high order, and in the second place, because the draughtsmen in their offices are in constant touch with the draughtsmen of other offices, either through the ateliers or because of the tendency which draughtsmen very fortunately have to make friends in the profession. It is hard to say just how much of the improvement in the work of any one architect is due to his own efforts and how much to the efforts of his draughtsmen, for even a capable designer—a man perhaps far superior to any of his employees—will invariably be influenced by their opinions, and certainly the man who runs a large office cannot hope to impress his own personality upon



every detail which goes out from it. Now, as architectural design, especially in the classic work, varies in character largely in accordance with the type of detail used, and as practically all detail drawings are made by the draughtsmen, it is inevitable that the influence of the draughtsmen should be directly impressed upon the executed work; and as draughtsmen's conceptions and opinions are formed, perhaps, as much outside the office (in the ateliers and schools) as in it, the criticism of their teachers and their associates inevitably makes itself felt.

Fortunately for the architectural profession, it is as a whole reasonably free from spite, petty jealousy, and unfair competition. There are, of course, notable exceptions to this general rule, but for the most part the men practising in the large cities number among their acquaintances, and even among their intimate friends, other men of the same profession, and especially other men whose practice is along kindred lines. The interchange of opinion and expression of criticism between such friends is apt to be free and unbiassed even to the point where it becomes cuttingly sarcastic, and the humility with which some of our biggest men accept such criticism, examine into the reasons for it, and endeavor to correct mistakes is an excellent omen for the progress of design.

Architects as a whole possess a curious combination of qualities—they are inordinately vain and excessively humble, and these simultaneously. There is scarcely one of us in the profession who does not think himself capable of really great achievement—perhaps we all are. On the other hand, there are very few who do not accept and weigh carefully criticism from other sources, be they never so humble. The criticism of clients is often instructive, not only from the practical side but from the artistic as well. As a matter of fact, a client generally thinks he knows the practical as well as the architect, and gives his opinions with less careful weighing of their value than his opinions regarding the artistic, for which he generally offers suggestions only with hesitation and only from a very real sense of their necessity.

Criticism, unfortunately, in the newspapers and the magazines is not very useful; the constant tendency is to say the kind thing and leave the unkind thing unsaid, and while it is of benefit to the architect to have the good things in his design pointed out, it is certainly of greater benefit to be shaken into the realization that there are places where he has fallen down. Too often the architect is inclined to attribute his errors to difficulties in the problem or to requirements on the part of his client. Merciless criticism will expose to him the fallacy of such an excuse; if a thing is really bad, it oughtn't to be done, and if a thing is at all possible, it can be done well, and no man should let down because he has an unpleasant problem.

### *The Difficulty of Being Omniscient*

MARK TWAIN says in his book, "A Connecticut Yankee in King Arthur's Court," that the best government would be a despotism were the despot to be wise and good, and that such being the case there is no doubt but that God should furnish us all with such despots—unfortunately he doesn't, and therefore we have to get along under a republic.

Much the same thing is the case with the architect. There is no doubt but that the architect should be omniscient, and therefore God should furnish architects with this quality, but he doesn't, and we have to get along with a consensus of opinion from all sorts of unrelated sources.

The questions which come to an architect are of the most extraordinary variety; he has to answer questions of the most widely different kinds, and if he is not able to answer them all promptly, fully, and accurately he cannot obtain the client's confidence. He is supposed to be fully informed regarding the chemical composition, methods of manufacture, ease and economy of operation, and durability of every item which could possibly be included in a building, and he is not supposed to take time to look all these up; he should have the answer on his tongue's end, although many of them present considerable technical difficulties and in some cases there is no answer.

Take the single example of paint. There is at the present time a controversy between the various manufacturers of paint as to the comparative merits of white lead, white zinc, and lithapone for exterior and interior work. The manufacturers of paints consisting mainly of each of these ingredients have been for some time submitting to the architectural profession folders containing the results of a series of tests, each conducted by people of unquestioned ability and reputation and each tending to show that the paint made by the manufacturer sending out the circular is the best. What is the architect to do? He cannot conduct his own private testing laboratory; and the results furnished him by his own experience will seldom be conclusive because of the different weather conditions on different jobs and because owners of different buildings will vary widely in their treatment of paint.

Another type of questions an architect frequently has to answer concerns itself mainly with historical references—concerning the exact dates when certain types of ornament or methods of construction were introduced, with a view to determine its suitability to present-day work. The architect who cannot give a pretty good résumé of the development of the modern auditorium from the Roman basilica, with various cross-references as to Byzantine, Persian, and Gothic halls, seems to the average church committee to be unfamiliar with the subject. Of course, bold statements made with an air of assurance and fortified by references to books, either real or imaginary, will satisfy the average layman, but most architects are truthful men, and apparent omniscience does not appeal to most of them as does veracity.

A third class of questions concerns itself chiefly with prices, and if there is an architect who has had three jobs in the last two years and who has not been asked the exact percentage of increased cost in every line since 1913, he is a lucky man. Some people who ask about the increases of costs also desire a forecast of the future, and if this forecast is not accurate and reliable half of them at least think the architect is something of a "boob."

Omniscience in any business is a desirable thing, but in architecture it seems to be indispensable.

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The announcement is made that the firm of Graham, Burnham & Company has been dissolved. Messrs. Ernest R. Graham, Pierce Anderson, Edward Probst, and Howard J. White have purchased the interest of Messrs. Hubert Burnham and Daniel H. Burnham in all the existing business and contracts of the late firm, and will continue the practice of architecture at 1417 Railway Exchange, Chicago, under the firm name of Graham, Anderson, Probst & White.

Messrs. Hubert Burnham and Daniel H. Burnham will continue the practice of architecture in the Rookery Building, Chicago, under the firm name of D. H. Burnham & Company.





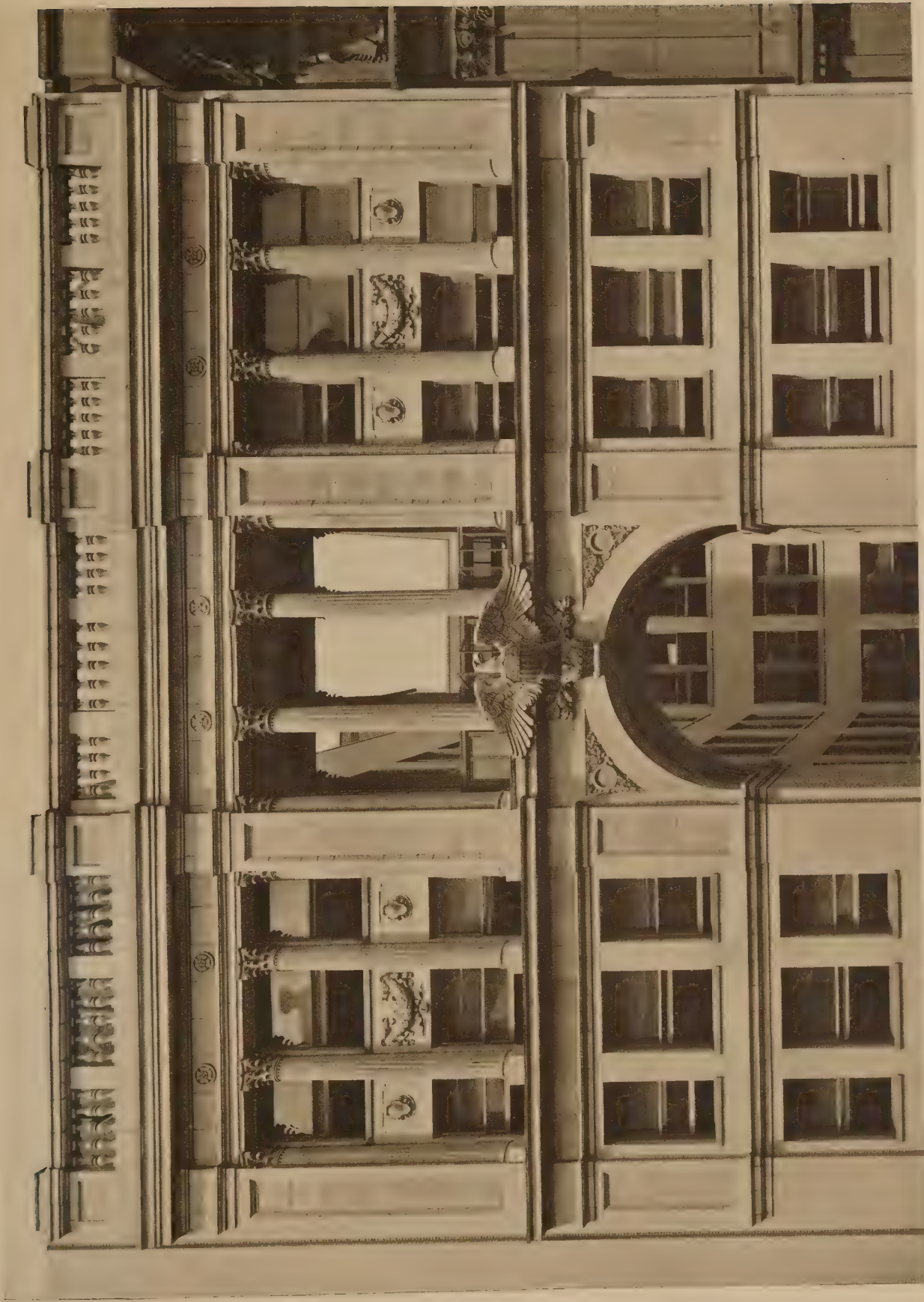
ENTRANCE DETAIL, OFFICE BUILDING FOR AMERICAN EXPRESS CO., NEW YORK.

Renwick, Aspinwall & Tucker, Architects.









DETAIL OF UPPER STORIES, OFFICE BUILDING FOR AMERICAN EXPRESS CO., NEW YORK.

Renwick, Aspinwall & Tucker, Architects.









ELEVATOR CORRIDOR, OFFICE BUILDING FOR AMERICAN EXPRESS CO., NEW YORK.

Renwick, Aspinwall & Tucker, Architects.









STAIRCASE, FIRST FLOOR.

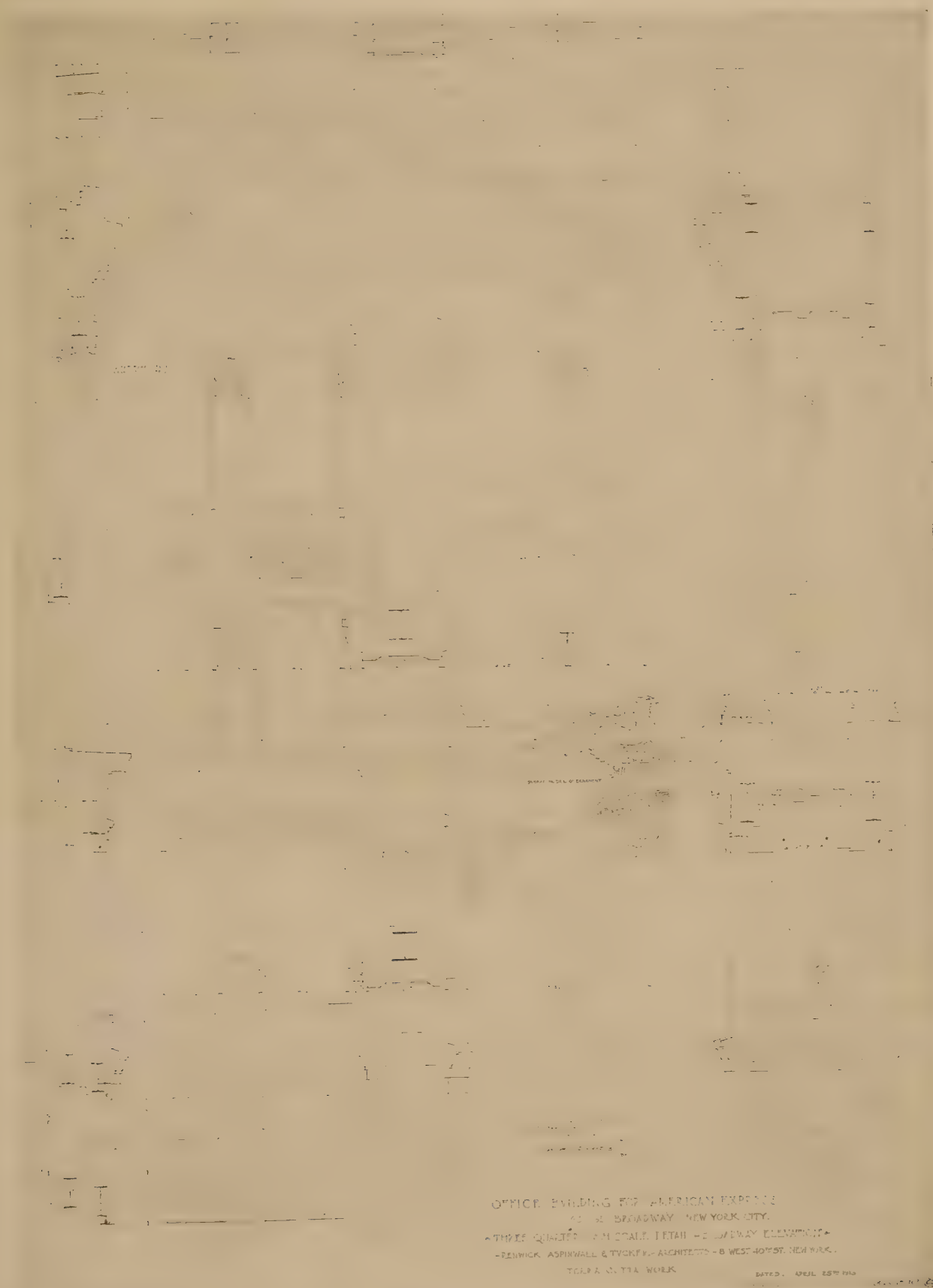


BANKING-ROOM, OFFICE BUILDING FOR AMERICAN EXPRESS CO., NEW YORK. Renwick, Aspinwall & Tucker, Architects.





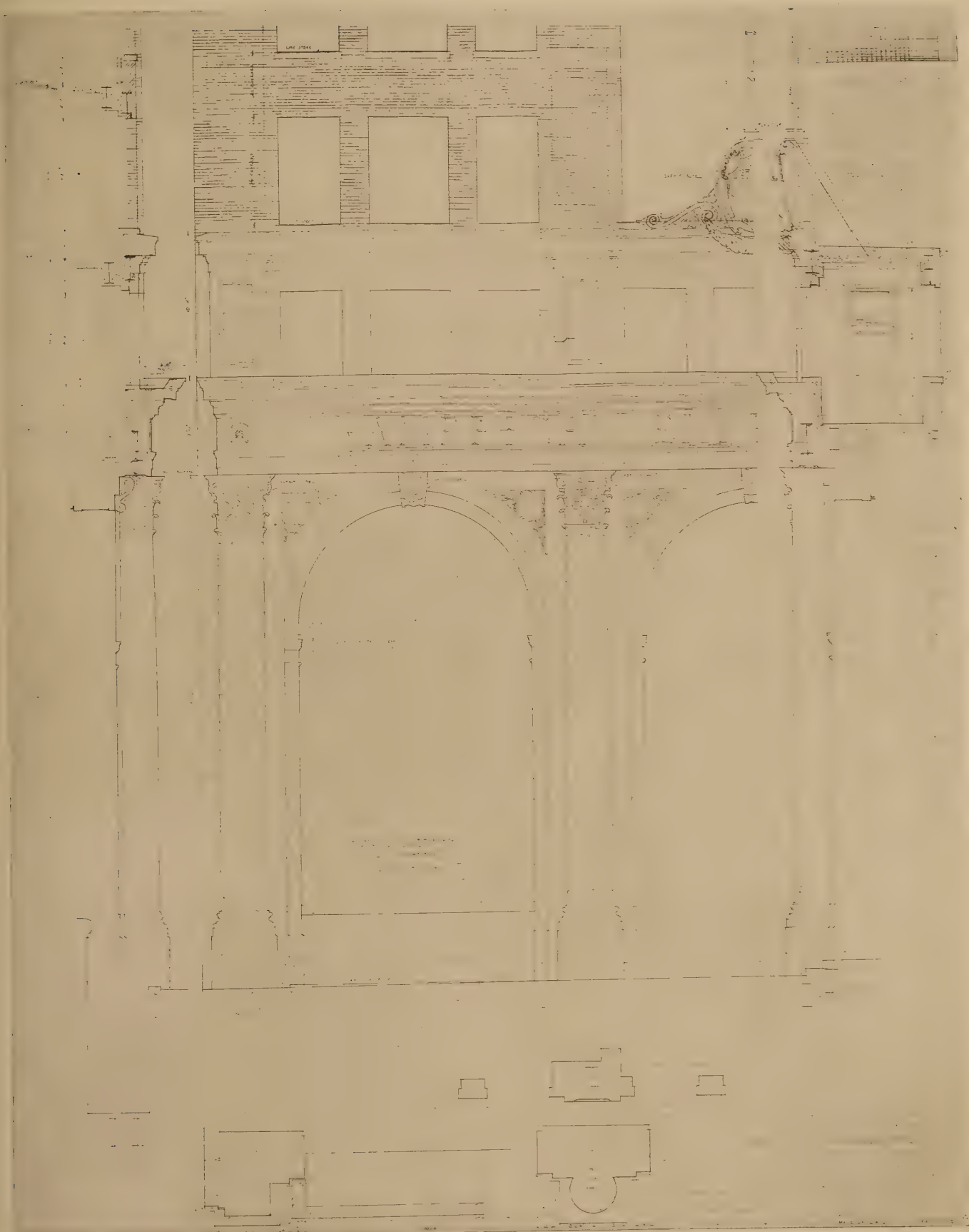




SCALE DETAIL, EXTERIOR, OFFICE BUILDING FOR AMERICAN EXPRESS CO., NEW YORK.  
 Renwick, Aspinwall & Tucker, Architects.





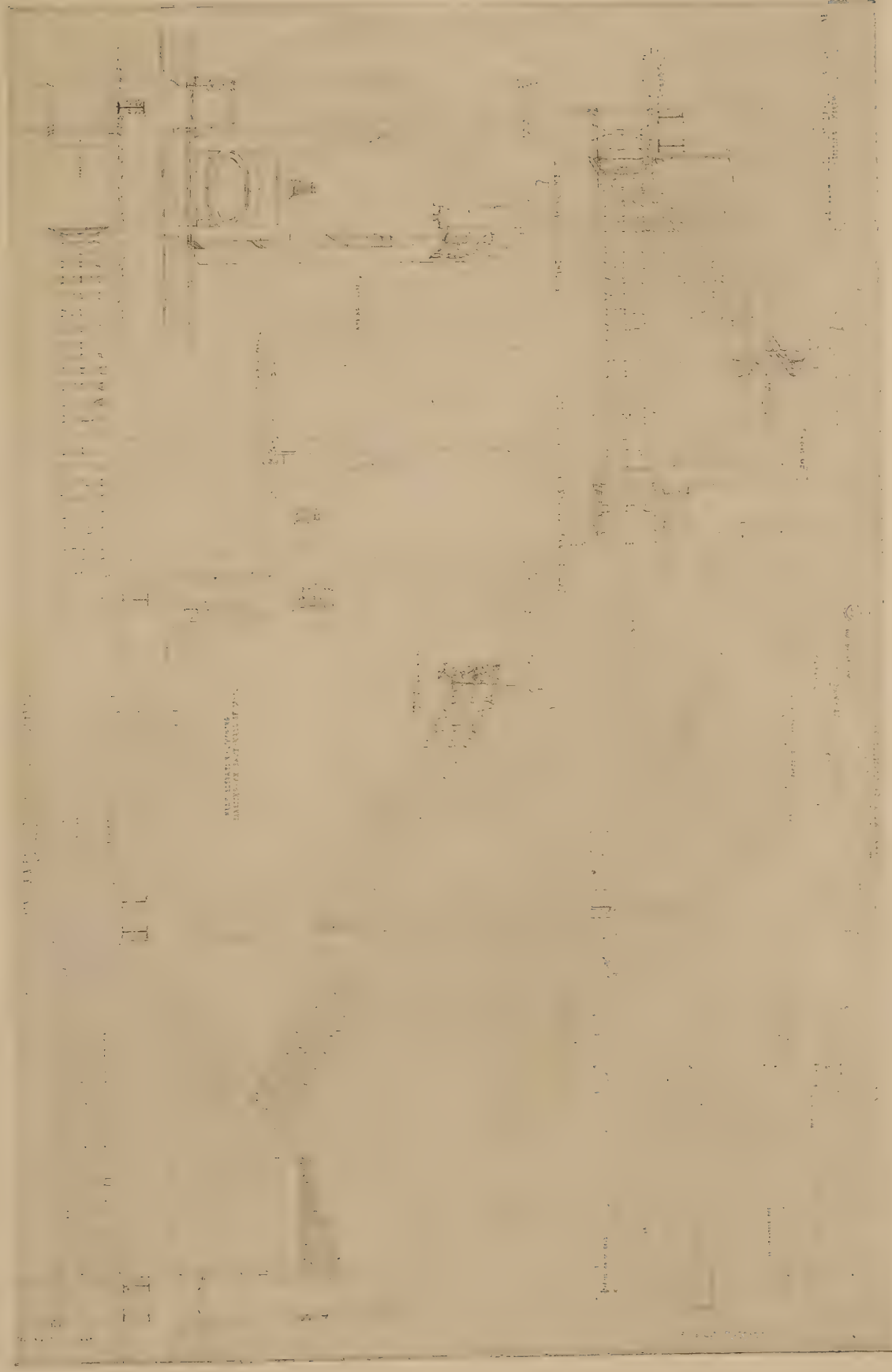


SCALE DETAIL, EXTERIOR, OFFICE BUILDING FOR AMERICAN EXPRESS CO., NEW YORK.

Renwick, Aspinwall & Tucker, Architects.







SCALE DETAILS, STAIRCASE, OFFICE BUILDING FOR AMERICAN EXPRESS CO., NEW YORK.

Renwick, Aspinwall & Tucker, Architects.





REVISIONS  
 1. KENWICK & ASPINWALL  
 ARCHITECTS  
 8 WEST 40th ST.

REVISED DESIGN FOR BRONZE GATES  
 FIRST FLOOR BANKING ROOM.  
 SCALE 1/2" = 1'-0"  
 MADE OCT 30th 1916 DRAWING NO. 127

SECTION  
 BRONZE AND GLASS  
 8' 0" x 10' 0" x 10' 0"

SCALE 1/2" = 1'-0"  
 SKETCH SHOWING BRONZE COILS FOR  
 INDIRECT LIGHTING FIXTURES FOR 1ST FL.

3/4 INCH SCALE DETAILS OF INTERIOR BRONZE WORK  
 ON FIRST FLOOR OF THE AMERICAN EXPRESS CO'S BUILDING.  
 63 AND 65 BROADWAY NEW YORK

BRONZE & GLASS  
 ILLUMINATED NAME PLATE  
 STANDARDS.  
 SECTION THRO  
 MARBLE COUNTER  
 AND BRONZE & GLASS  
 SCREEN

TYPICAL  
 ELEVATION  
 OF  
 BRONZE  
 GLASS  
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 MARBLE  
 COUNTER

SECTION THRO  
 MARBLE COUNTER  
 AND BRONZE & GLASS  
 SCREEN

SECTION THRO  
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SECTION THRO  
 MARBLE COUNTER  
 AND BRONZE & GLASS  
 SCREEN







LOOMIS INSTITUTE, WINDSOR, CONN.

Murphy & Dana, Architects.







FOUNDERS' BUILDING FROM HEADMASTER'S GARDEN, LOOMIS INSTITUTE, WINDSOR, CONN.

Murphy & Dana, Architects.





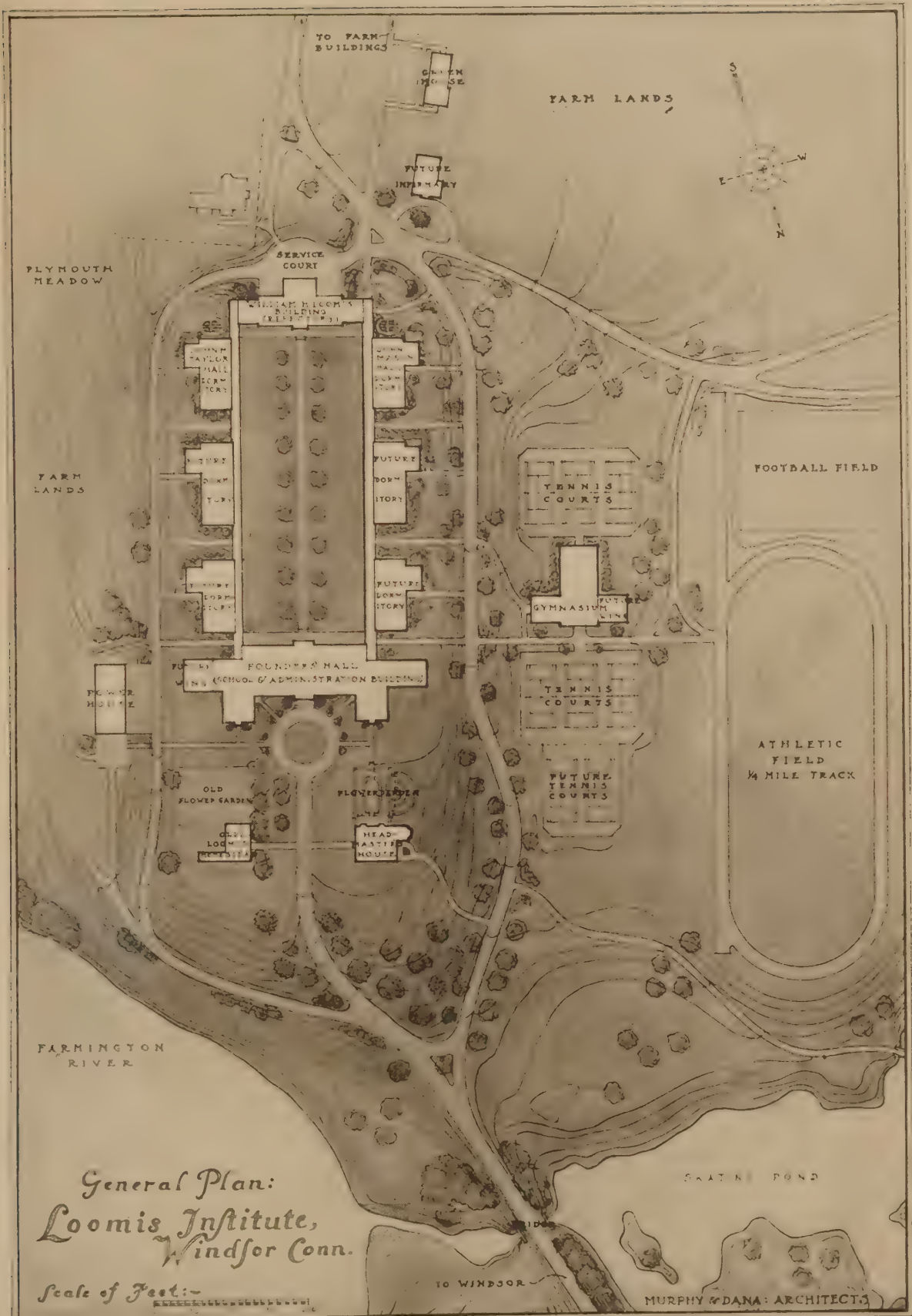


INTERIOR OF CHAPEL, LOOMIS INSTITUTE, WINDSOR, CONN.

Murphy & Dana, Architects.













NORTH ENTRANCE, FOUNDERS' BUILDING.



SOUTH ENTRANCE, FOUNDERS' BUILDING.

LOOMIS INSTITUTE, WINDSOR, CONN.

Murphy & Dana, Architects.







FIREPLACE IN LIBRARY.



FIREPLACE IN DINING-HALL.

Murphy & Dana, Architects.

LOOMIS INSTITUTE, WINDSOR, CONN.







FOUNDERS' HALL.



THE DINING-HALL.

LOOMIS INSTITUTE, WINDSOR, CONN.

Murphy & Dana, Architects.







HEADMASTER'S HOUSE.



JOHN MASON HALL.

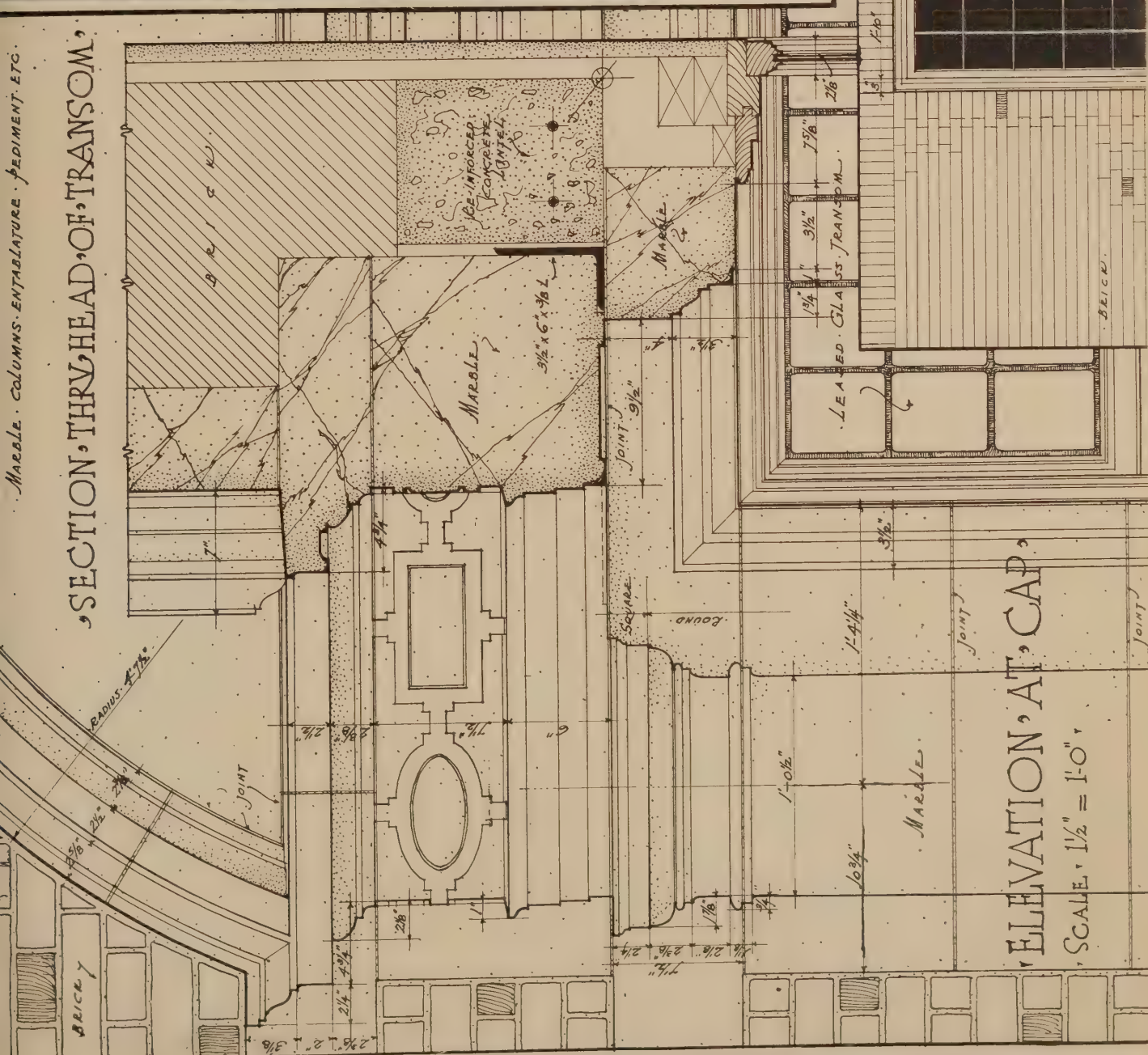
LOOMIS INSTITUTE, WINDSOR, CONN.

Murphy & Dana, Architects.





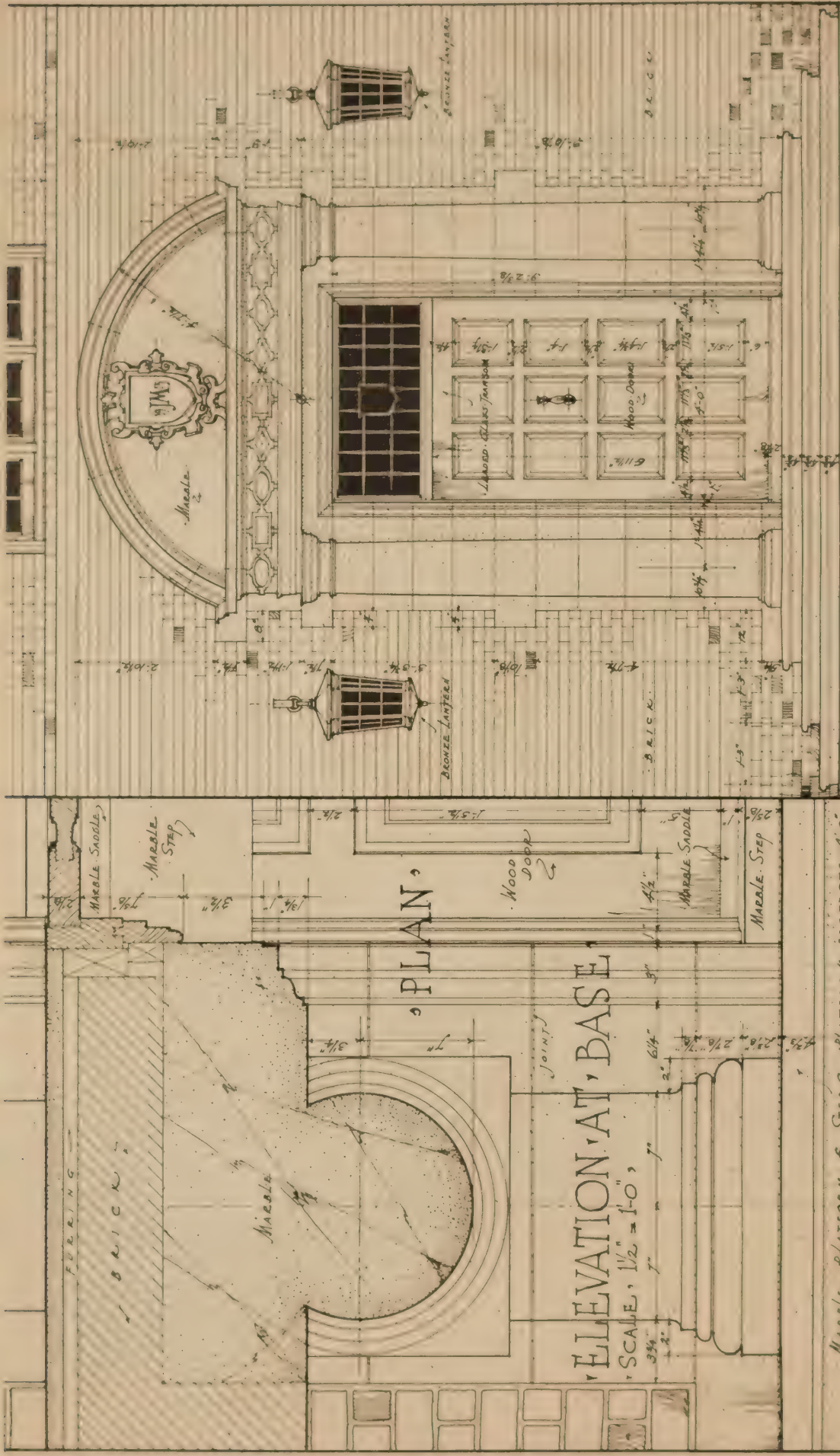
SECTION, THRU HEAD, OF, TRANSOM,



ELEVATION, AT CAP.

SCALE,  $1\frac{1}{2}'' = 1'-0''$





THREE EIGHTHS INCH SCALE ELEVATION

ENTRANCE DOORWAY,  
HOVSE, AT ALBANY, N. Y.,  
LEWIS COLT, ALBRO ARCHT, N. Y. C.

DRAWING, NO. 63,  
SEPT. 1917,  
DRAWN BY WALTER MCQUADE.

"ARCHITECTURE" SERIES,  
OF,  
MEASURED DETAILS,

MARBLE PLATFORM & STEPS - PLATFORM PROJECTS 4'-0"

ELEVATION AT BASE

SCALE 1 1/2" = 1'-0"

PLAN

WOOD DOOR

MARBLE SADDLE

MARBLE STEP

MARBLE

MARBLE SADDLE

MARBLE STEP

BRICK

BRONZE LANTERN

BRICK

JOINT

7"

3 1/2"

3 1/2"

6 1/4"

2"

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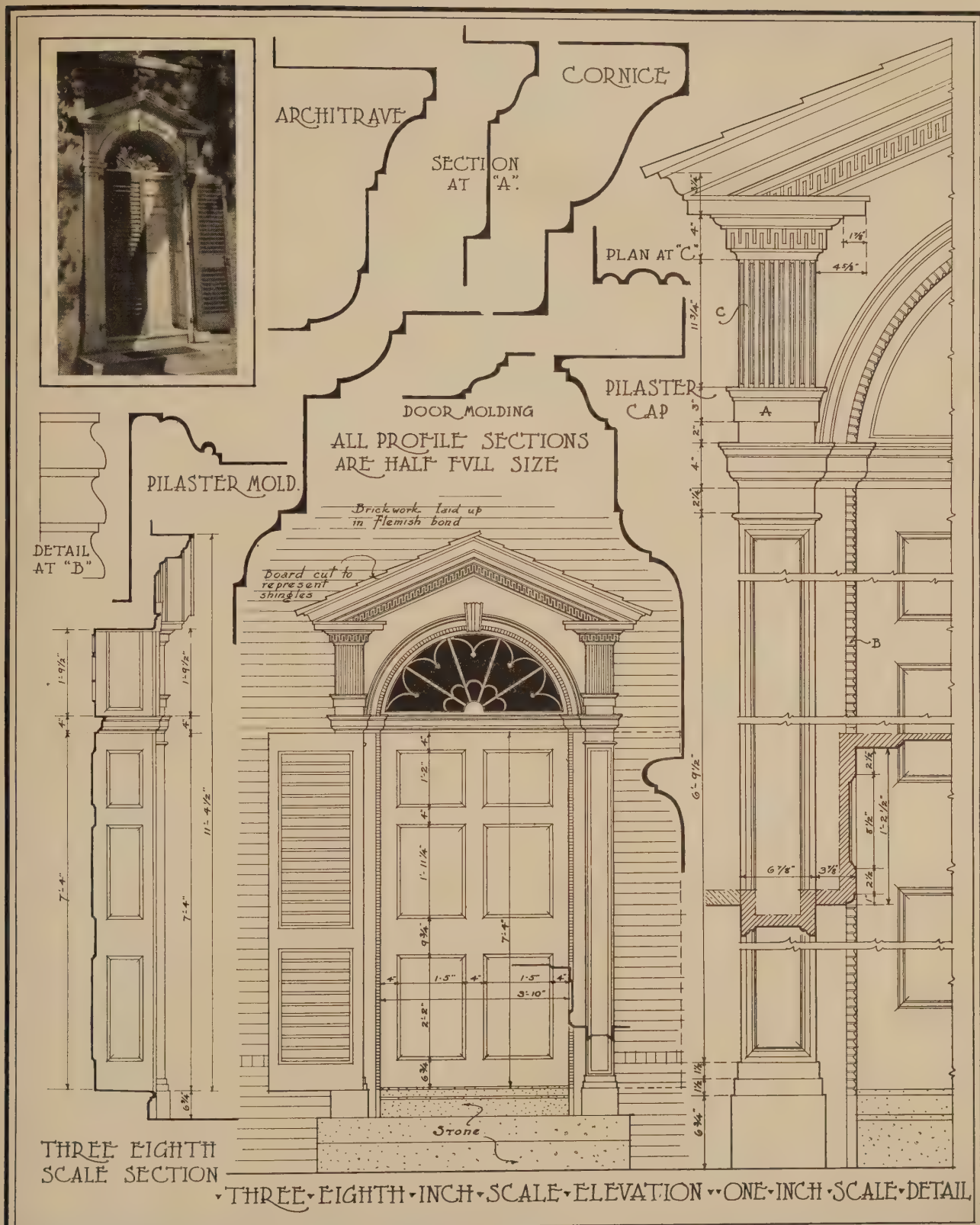
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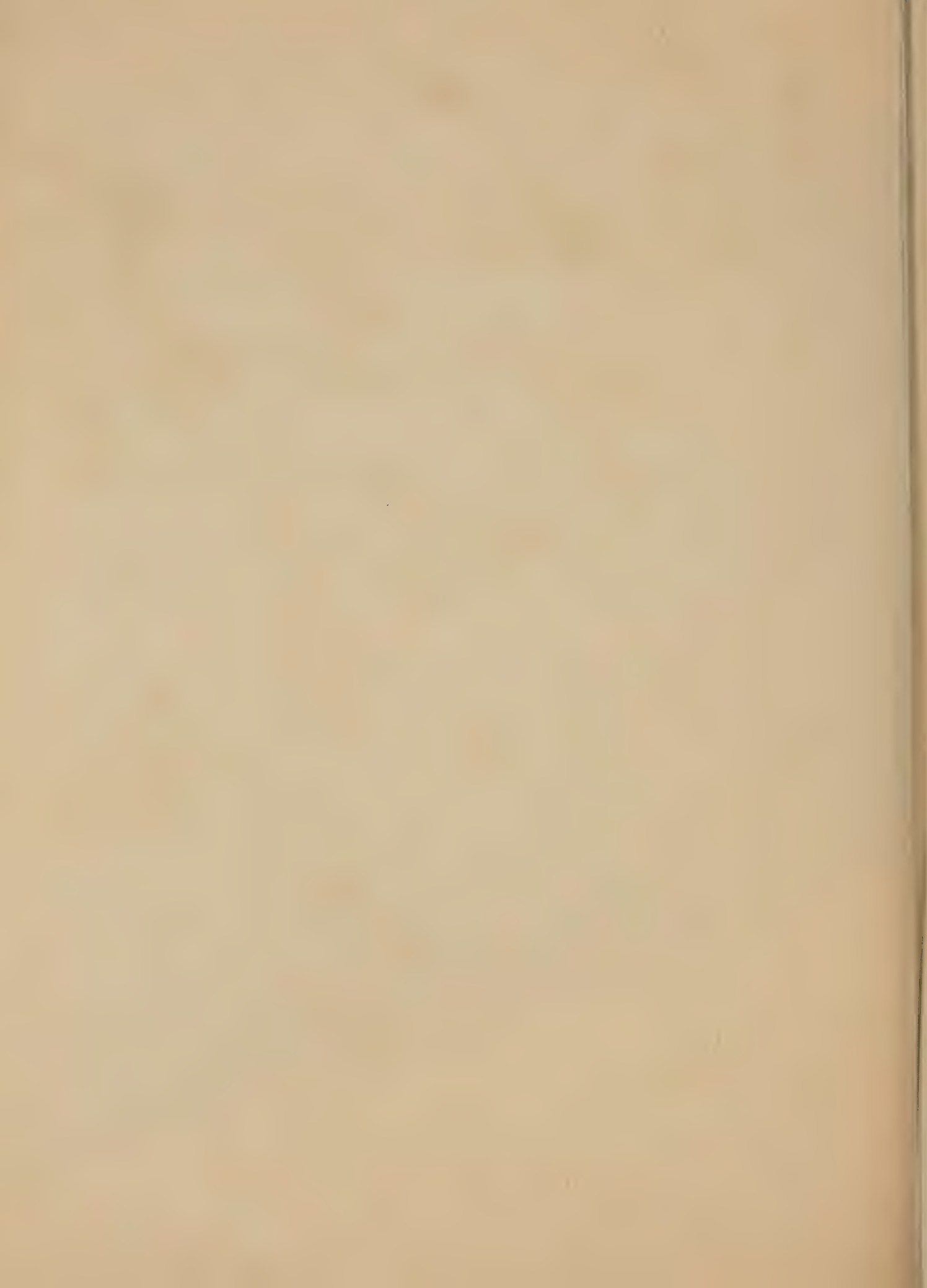




EARLY ARCHITECTURE  
OF  
NEW JERSEY

• DOORWAY •  
• 317 • WOOD • ST. • BURLINGTON • N.J. •  
BUILT ABOUT 1800

MEASURED & DRAWN  
BY  
Albert E. Micklewright

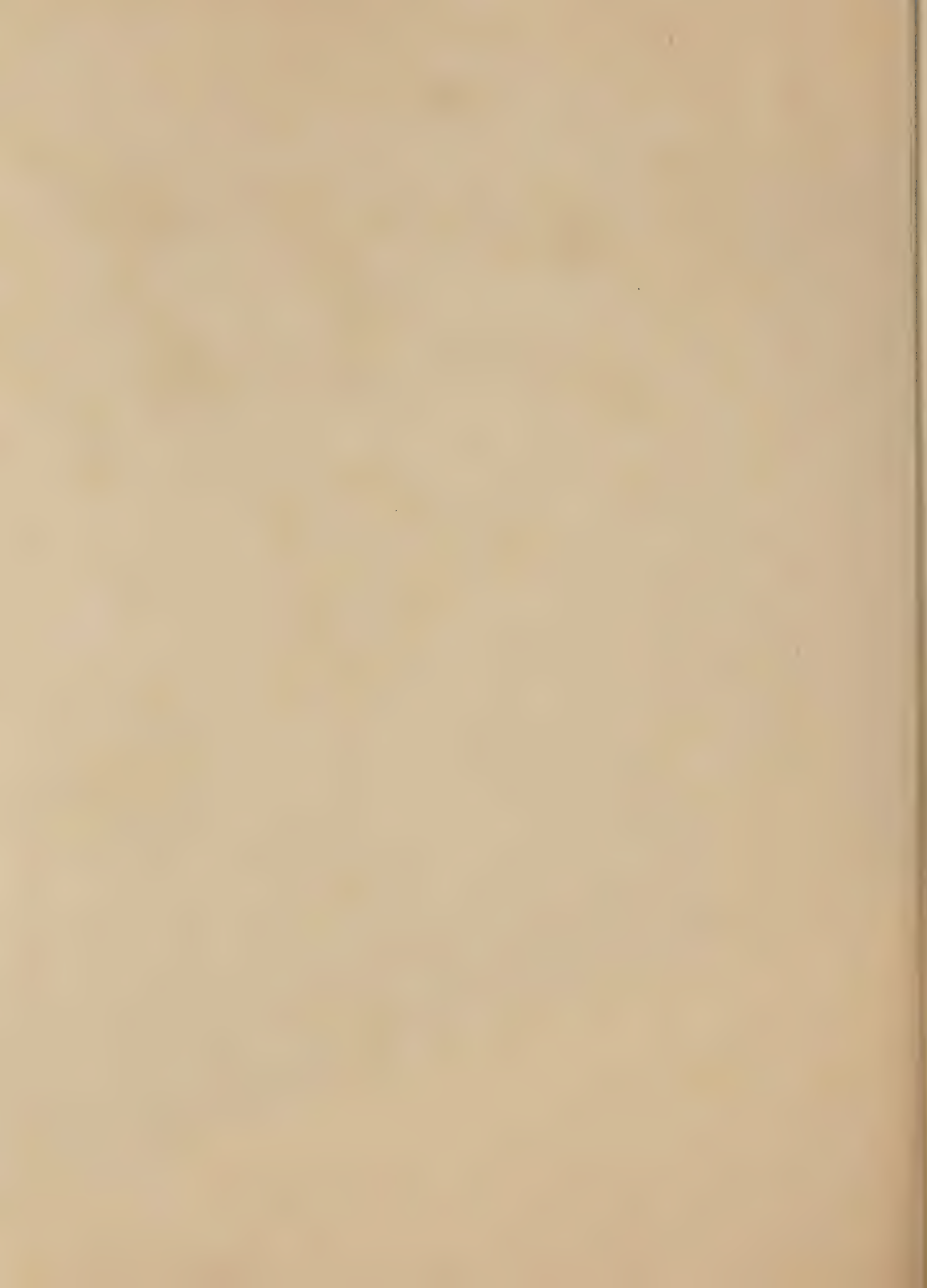




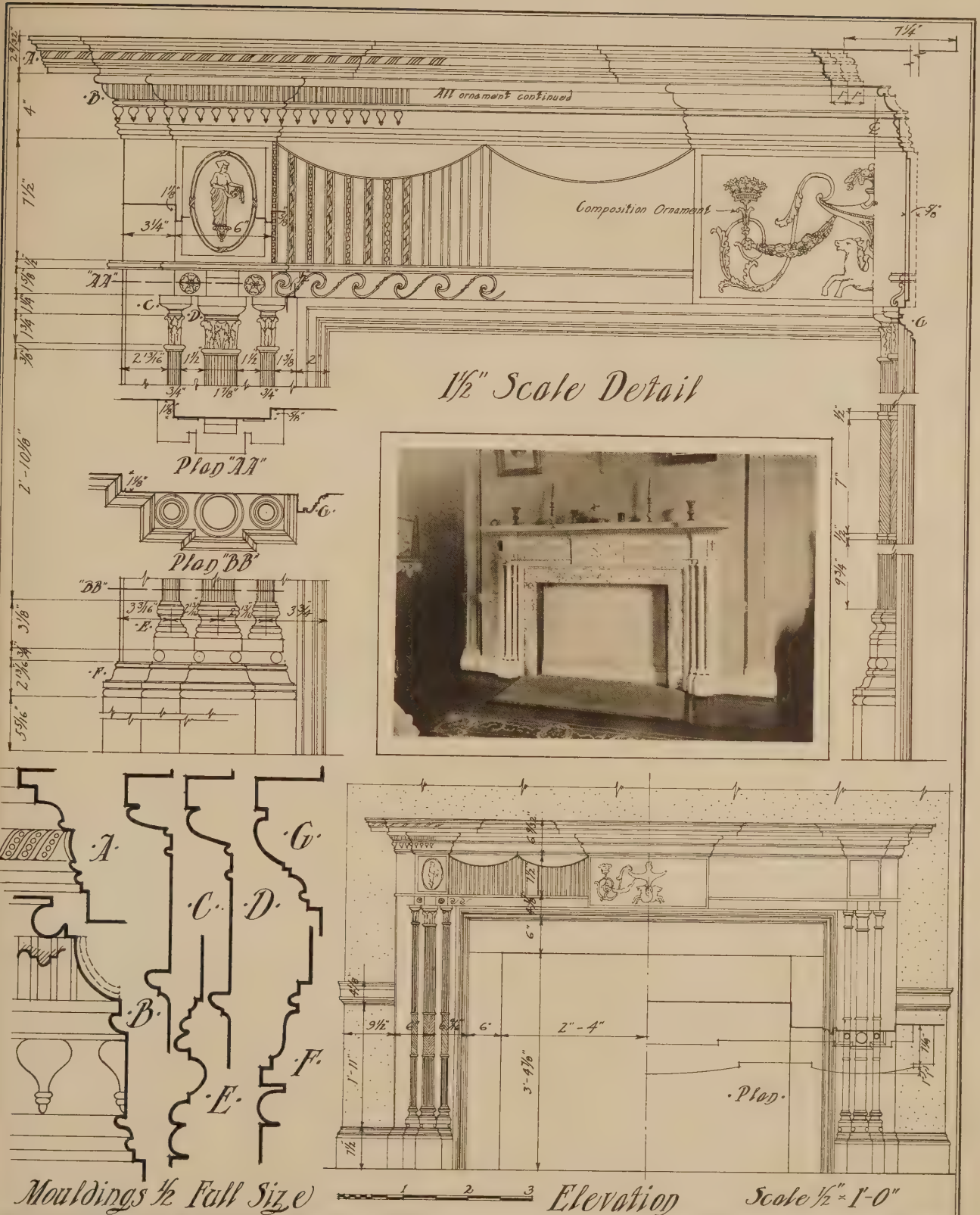










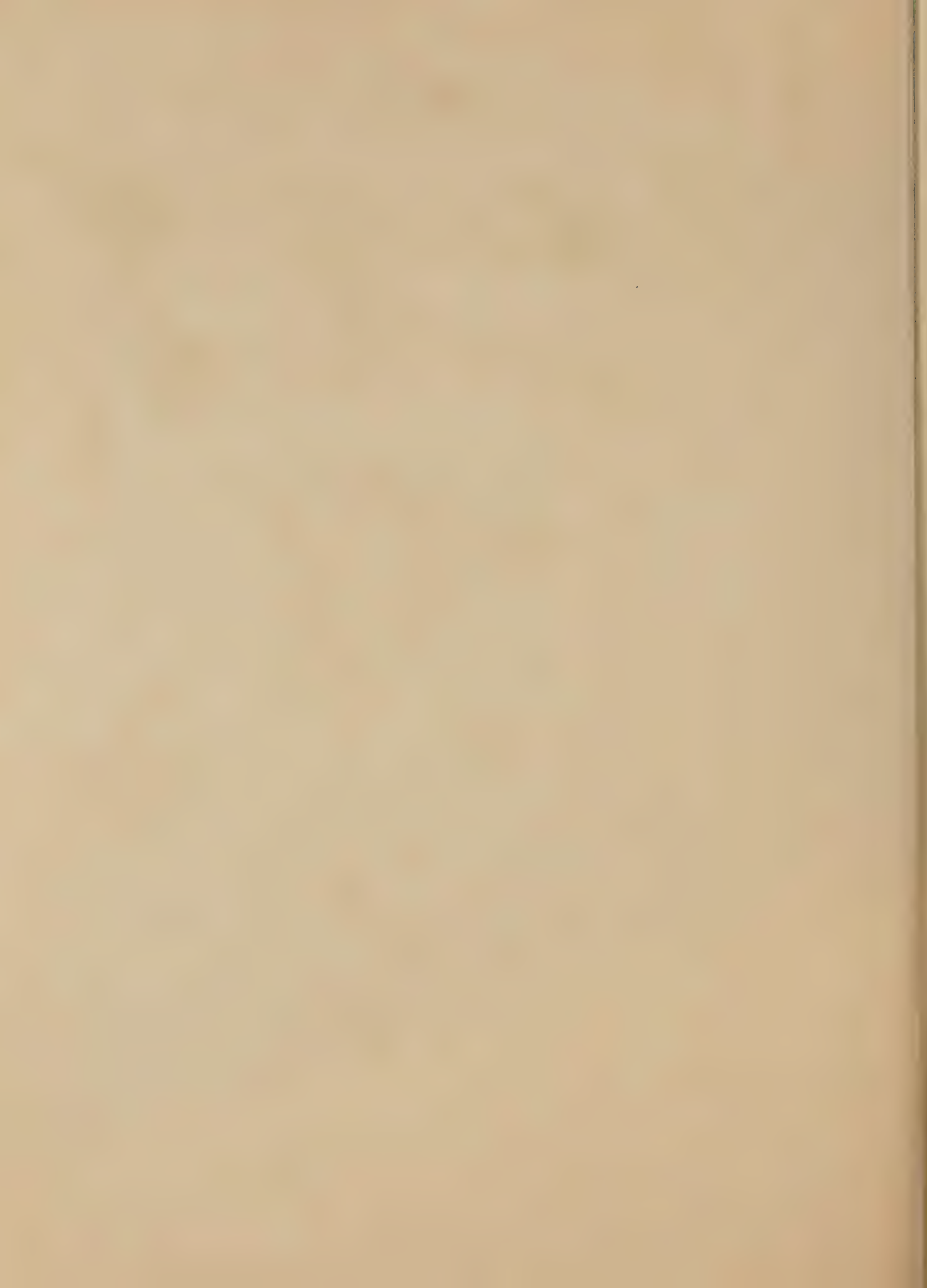


Early Architecture  
of  
Virginia

Date 1815

Mantel - Fairfax House  
Alexandria Va  
Built By Wm. Yeaton

Measured & Drawn By  
J.L. Reister  
C.J. Munson  
J.A. Weber



## "Beauty and Romance in Stone"

GOthic architecture is a sort of fairy-story in stone; the folk had fallen in love with building, and loved that their goldsmith's work, and ivories, their seals, and even the pierced patterns of their shoes should be like little buildings, little tabernacles, little "Paul's windows." Some of their tombs and shrines must have been conceived as little fairy buildings; they would have liked little angels to hop about them all alive and blow fairy trumpets. In the buildings of the great cathedrals it must be allowed that there is an element that we do not understand. The old builders worked wonder into them; they had the ability which children have to call up enchantment. In these high vaults, and glistening windows, and peering figures, there was magic even to their makers.

I would, if I could, say something to increase our reverence for this architecture as something not to be entirely understood. We cannot by taking thought be Egyptian or Japanese, nor can we again be Romanesque or Gothic, and when we consider the century of critical inquiry which has been devoted to this art, and the artists of the same century enthusiastic in subjecting the monuments to the process called "restoration," it might be well to inquire if any of us have ever yet seen a Gothic building? As a spectacle, yes; but as the builder's understood it, no. As I have already said, attempts are continually being made to sum up Gothic architecture in a formula, as the architecture of pointed arches, of ogival vaulting, of subdivision and subordination, and so on; but, as we find it in fact, it was the product of given historical circumstances, as well as of the special principle of Gothicism, whatever that may have been. As general characteristics, we may say that Gothic architecture was developed by free and energetic experiment; it was organic, daring, reasonable, and gay. The measure of life is the measure of Gothic.

The most penetrating criticism of Gothic architecture that has been made is that of Prosper Mérimée, who pointed out that a great cathedral like Amiens is a highly strung organism with its most vital parts, the flying buttresses and window mullions, exposed to the weather. Such a cathedral is more like an engine than a monument, in that it is only kept in order by unceasing attention.

The great cathedrals seem to have been built on such a scale that they might almost gather the entire adult population of the city within their walls. As to these marvellous buildings, the half of their glories and wonder cannot be told. They are more than buildings, more than art—something intangible was built into them with their stones and burned into their glass. The work of a man, a man may understand; but these are the work of ages, of nations. All is a consistent development, stone is balanced on stone, vault springs from vault, interlacing tracery sustains brilliantly dyed glass as branches hold sun-saturated foliage, towers stand firm as cliffs, spires are flung into the air like fountains. In these buildings all may be explained as devised for ritual use and for the instruction of the people; all as material and structural necessity; all as traditional development; all as free beauty and romance in stone. From whichever point of view we may approach them, the great cathedrals satisfy us, and their seeming perfections are but parts of a larger perfection. Nothing is marked, nothing is clever, nothing is individual nor thrust forward as artistic; they are serene, masterly, non-personal, like works of nature—indeed they are such, natural manifestations of the minds of men working under the impulse of a noble idea.

*From "Mediæval Art," by W. R. Lethaby. Charles Scribner's Sons, Publishers.*

## Book Reviews

**HINTS ON LANDSCAPE GARDENING**, by Prince von Pückler-Muskau. Translated by Bernhard Sickert and edited by Samuel Parsons. Houghton Mifflin & Co., Boston. \$3.50 net.

"It is an important book, being one of a series being published under the auspices of the American Society of Landscape Architects. The first one, 'Repton,' was edited by Mr. Nolen, a prominent landscape architect, who is now employed by Houghton Mifflin Co. superintending the issue of several standard works on landscape gardening."

A comprehensive outline of what is essential to the producing of a good result in landscape gardening, with practical suggestions for actual performance of work, delightfully free from anything dry or academic, with the result that the book is a series of vivid pictures of designs resulting from fundamental principles.

Prince Pückler has written from personal experience, practically verified, not from the theory of others. His school was travel and observation, added to the background of generations of culture and his real love and appreciation of nature, directed by intelligent arrangement. It is a valuable book and should be in every library, so that it may be in the reach of all persons interested in the improvement of property, small or large.

Prince Pückler was a life-long friend of English institutions, advocated them always, and opposed Goethe to his face for his autocratic German opinion and desire to enslave the masses. He appealed to the German people to cultivate their gardens, saying, "It would be well to turn aside a little from these sad politics, which absorb everything, and give so little in return, and revert to happy art, whose service is, in itself, a reward."

**A ROMAN ALPHABET AND HOW TO USE IT**. By Frank Forrest Frederick, Director of the School of Industrial Arts, Trenton, N. J. Published by Frank Forrest Frederick, Trenton. Paper covers, 75 cents.

**THE ENJOYMENT OF ARCHITECTURE**. By Talbot Faulkner Hamlin. With 31 full-page illustrations and numerous line-drawings. Duffield & Co. \$2.00 net.

"There is one enormous source of artistic pleasure of which but few are yet aware; there is one art whose works confront us wherever man lives, which all too many of us daily pass blindly. That source is to be found in the buildings all around us; that art is the art of architecture." Few writers on architecture have written with the clarity or have made the subject more fascinating and comprehensible than the author of this admirable book. It deals with the subject not as a dry and formal study for the specialist but as a vital and inspiring part of every-day life. There is a sufficient review of the past and of basic principles upon which to found intelligent judgments of the sky-scrapers and buildings of every city and town we may pass through.

"A true appreciation of architecture can only come to one who studies it with an eager sympathy, and with all sides of his nature alert and receptive. He must blind himself neither to the intellectual nor the emotional aspect of the art; he should consider structure, planning, and abstract beauty, but at the same time he should preserve an attitude keenly alive to the emotional message which the art may bring."

If this is a book primarily addressed to the layman there are many passages that may be read with profit by the practitioner.

**THE STUDIO YEAR-BOOK OF DECORATIVE ART**. A Review of the Latest Developments in the Artistic Construction, Decoration, and the Furnishing of the House. John Lane Co., New York. Paper covers, \$2.50. Cloth, \$5.00.

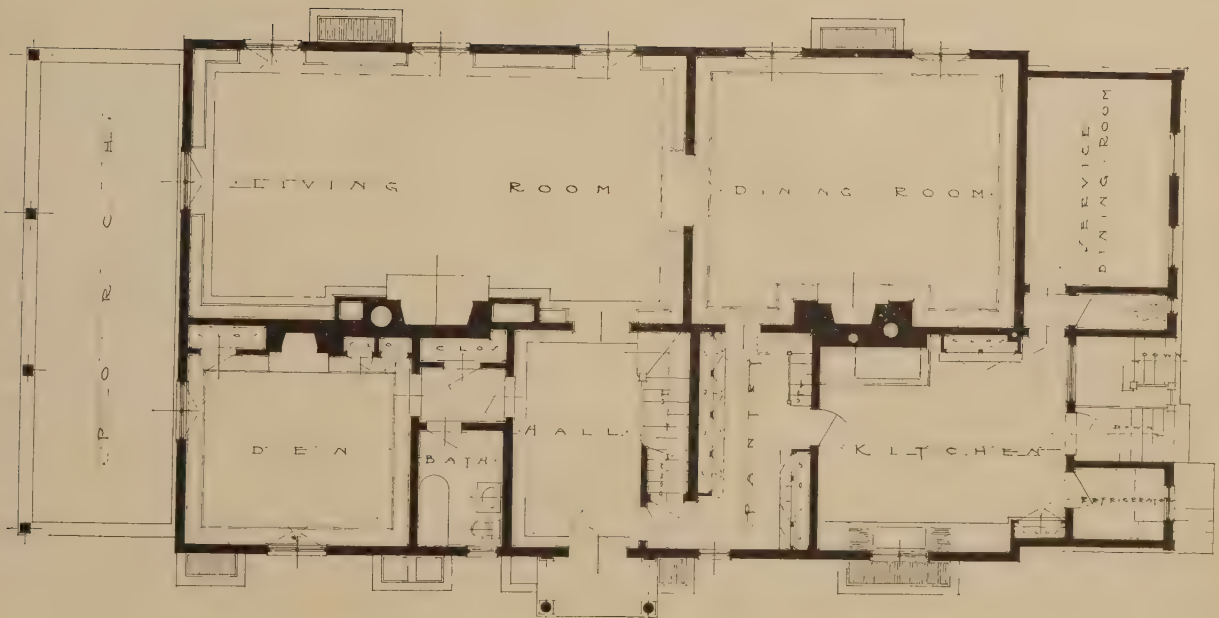
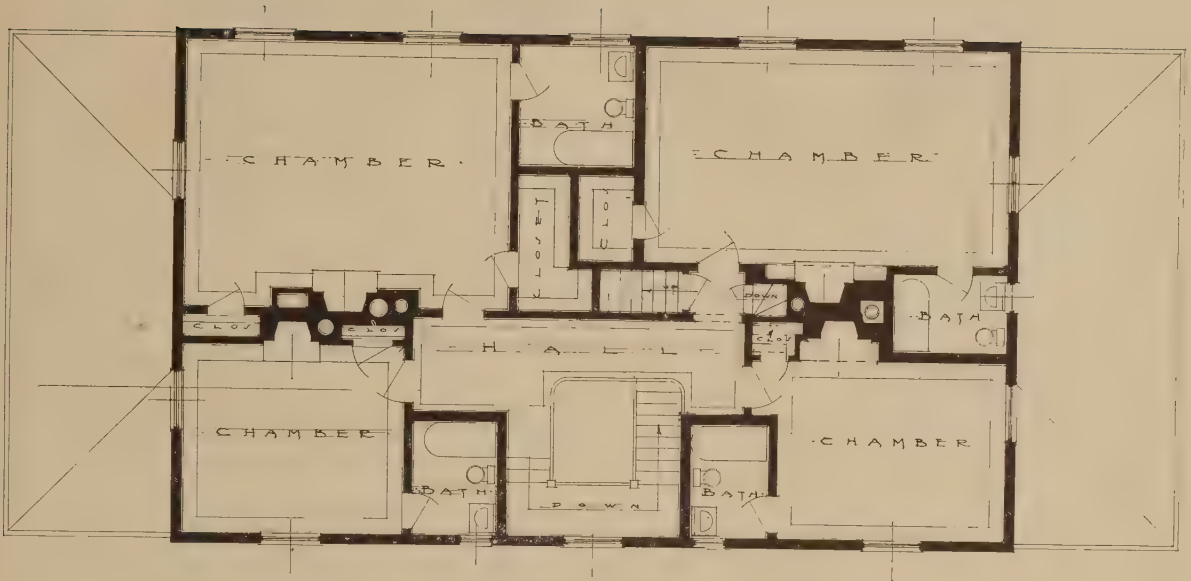
A review of recent work in both Great Britain and the United States, with many illustrations in both black-and-white and colors.





HOUSE, W. SEWARD WEBB, JR., MANHASSET, N. Y.

Cross & Cross, Architects.



PLANS, HOUSE, W. SEWARD WEBB, JR., MANHASSET, N. Y.

Cross & Cross, Architects.



# Legal Decisions of Interest to the Architect

These decisions appear monthly and are edited by Mr. John Simpson, the well-known lawyer.

## ARCHITECT'S CERTIFICATE

In an action on a building contract requiring the contractor to present an architect's certificate as a prerequisite to payment, the New York Appellate Division holds that the plaintiff contractor has the burden of presenting such certificate or sufficiently excusing his failure to do so. The plaintiff claimed there was no architect on the job, and that therefore no architect's certificate was required; but it was held to be for the plaintiff to prove performance, or an excuse for nonperformance, and it did not appear that there was no architect in charge of the work. Where a contractor took over such a contract by a supplemental contract providing for final payment when requirements of the building department, etc., were met, presentation of the architect's certificate remained a necessary requirement.—*Barth vs. Gatto*, 165 N. Y. Supp. 213.

## SUPPLEMENTAL BUILDING CONTRACT

After houses were built under a contract to do so according to plans and specifications, the owner claimed that they were not completed in accordance with the contract. A supplemental contract was made, whereby part of the contract price was paid at once, and the balance was placed with a third person to be held until the contractor had done certain things. Among these was: "Have all the tin work on said houses done with proper fall and in proper workmanlike manner." In an action by the contract to obtain the fund set aside, it was held by the Texas Court of Civil Appeals that the only proper way to do the tin work was according to the original specifications. It could not avail the contractor, failing to do so, that on his failure the owner did not avail himself of the privilege given by the contract to do it and charge the cost against the contractor.—*Appelbaum vs. Spinner-Hay Lumber Co.* (Texas), 186 S. W. 810.

## RELEASE OF CONTRACTOR'S SURETY

The Kentucky Court of Appeals adopts the view of those jurisdictions which hold that the strict rule as to discharge of surety by act or omission of the secured party, as to the contract, applies only to voluntary sureties and is not enforced with the same rigid strictness in favor of a paid surety. But even as to paid sureties, material changes, alterations, or non-observance of the contract cannot be made without the knowledge or consent of the surety, without releasing him. In an action on a bond for a building contractor the complaint alleged that the entire contract price was paid to the contractor without retaining the stipulated 10 per cent. which would amount to more than the sum sued for, and indicated a failure of the plaintiff to notify the surety of probable inability of the contractor to perform. It was held that the complaint was demurrable, since it showed violation by the plaintiff of material portions of the contract thereby releasing the surety.—*Pond Creek Coal Co. vs. Citizens' Trust & Guaranty Co.* (Ky.), 186 S. W. 494.

## ENFORCEMENT OF BUILDING RESTRICTIONS

A grantor in a deed restricting houses on the lots sold to single residences permitted the grantees of a lot to expend money in remodelling their house into a two-family flat and

use it as such for a number of years. The grantees formed a plan to erect another two-story flat adjoining and connected with the existing flat, thus making a four-flat apartment house. In an action by the grantor for injunction, the Michigan Supreme Court holds that the plaintiff may have estopped herself from claiming that the defendants could not maintain the house in its present condition, but it did not follow from this that all restrictions were waived, and that the defendants might now use this lot without restrictions of any kind, nor did it follow that a single or occasional breach of the original plan in some distant part of the plot or under circumstances such as not to injuriously affect a party's property, or where there is no radical or material change in the general conditions or surroundings, estops such party from asserting his rights against an adjacent owner whose breach of restrictions threaten to materially diminish the value and desirability of his property. The true rule seems to be that, even after one or more breaches, equity will grant relief if the restriction can be shown to be of value to the complainant, and such breaches have not resulted in a subversion of the original scheme of development resulting in a substantial, if not entire, change in the neighborhood.—*Davison vs. Taylor* (Mich.), 162 N. W. 1033.

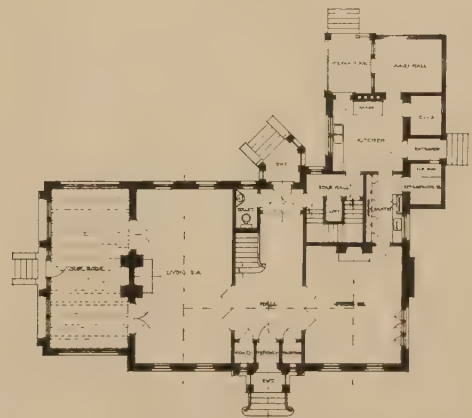
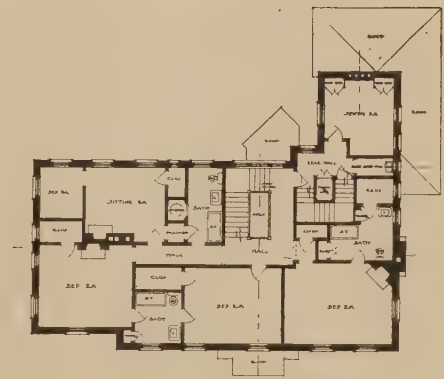
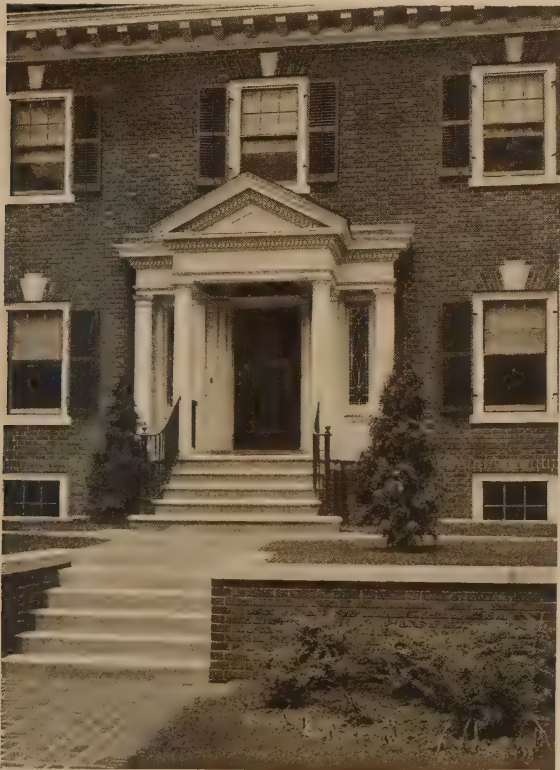
## RELEASE OF CONTRACTOR'S SURETY

The Minnesota Supreme Court holds that the surety on a contractor's bond was not released or its liability reduced by the failure of the owner to give notice of the contractor's failure to complete the building by the time specified in the contract, no claim being made by the owner because of such failure, and there being no showing of prejudice to the surety because of the omission to give the notice. It is the settled doctrine of the Minnesota cases that a delay in the completion of the building on time may not have resulted in damages, and may in any event have been waived by the owner, and if so waived does not constitute a default or breach of the contract which makes either the contractor or his surety liable, and therefore that the failure to give this notice does not release the surety. There are authorities to the contrary in other jurisdictions, but the Minnesota court is not disposed to consider the question an open one in that State.

The building contract provided that should the contractor be delayed in the prosecution or completion of the work by the act, neglect, or default of the owner or of any other contractor employed by the owner on the work, the time fixed for the completion should be extended for a period equivalent to the time lost, "which extended time shall be determined and fixed by the architect, but no such allowance shall be made unless a claim therefor is presented to the architect within forty-eight hours of the occurrence of such delay." It also provided for the submission of the amount of the loss by delay to arbitration. The surety company contended that the contractors were delayed in the prosecution and completion of the work by the act of the owner in directing them to go slow, and by the failure of the excavators employed by the owner to diligently prosecute their work. It was claimed that this delay caused a serious loss to the contractors. But they made no claim for an extension of time, nor was there any submission of the amount of the loss to arbitration. The surety company seemed to claim that

*Continued page 182.*





HOUSE AND PLANS, A. H. BULL, ELIZABETH, N. J.

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it suffered damage by these delays, presumably for the reason that but for the delays the contractors could have done the work at less expense and would have been able to pay at least some part of the claims for which liens were filed. Granting that the owner was responsible for the delay and that the contractors had a just claim against it for the loss they sustained, they failed to take advantage of the remedy provided in the contract. It was held that there was no provision of the bond that released the surety from liability or lessened its liability under such circumstances.—*Kildall Fish Co. vs. Giguere* (Minn.), 162 N. W. 671.

#### COMMUNITY BUILDING RESTRICTIONS—ABANDONMENT

In an action for an injunction to remove buildings erected in violation of a community building restriction the New Jersey Court of Chancery holds that where the complainant daily observed the construction begun in September without interference the filing of a bill the following January to compel removal is too late under the rule applied in equity that to protect restrictive building covenants proceedings must be taken before there has been a serious expenditure of money.

The fact that a number of dwellings out of about two thousand within a community have open porches or bay windows extending closer to the street than is permitted by a community building restriction is held not to evince an abandonment relieving grantees from observance of the restriction.

Where community building restriction agreements contemplate open porches extending closer than 20 feet from the street line and have been so interpreted and acted upon, overhanging open porches and bay windows extending closer than 20 feet cannot be regarded as infringements.—*Winslow vs. Newcomb* (N. J.), 100 Atl. 613.

#### RELEASE OF SURETY

The Texas Court of Civil Appeals holds that a change in ornamentation, not affecting cost or strength, is immaterial, and will not discharge a building contractor's surety. The surety is not discharged, because 20 per cent. is not at all times retained, as provided by the contract, where the owner not only pays in good faith on the architect's certificates, but in the end 20 per cent. is retained.—*Da Motte vs. Hillsboro I. School Dist.* (Texas), 186 S. W. 437.

#### FALL OF BUILDING BEFORE COMPLETION—CONTRACTOR'S LIABILITY

Where without wrong of the owners a building fell before the contractors had completed it, the Texas Court of Civil Appeals held that the contractors were liable to the owners for the damages for their failure to reconstruct.—*Da Motte vs. Hillsboro I. School Dist.* (Texas), 186 S. W. 437.

#### MECHANICS' LIENS—BUILDINGS ON NON-CONTIGUOUS LOTS

The Arkansas Supreme Court holds that where materials are furnished under a single contract for buildings to be constructed upon two or more lots, a single mechanic's lien may be filed against two or more of the buildings, although they are not located on contiguous lots. The reason the court gives for the rule is that when materials are furnished under a single contract for buildings to be constructed on two or more lots it cannot be expected of the materialman to know

how much is used upon each lot. This is a point upon which the authorities in the various jurisdictions are in hopeless conflict.—*Burel vs. East Arkansas Lumber Co.* (Ark.), 195 S. W. 378.

#### OWNERSHIP AS AFFECTING SURETY BOND

The Texas Court of Civil Appeals holds that a bonding company's bond to secure the execution of a building contract was not vitiated by the fact that the obligee had only the legal title to the premises, and the equitable title was in another.—*Texas Fidelity & Bonding Co. vs. Elliott* (Texas), 195 S. W. 301.

#### ARCHITECT'S CERTIFICATE—ABANDONMENT—LIABILITY OF SURETY

In an action on the bond of a contractor for a school building, the Texas Court of Civil Appeals holds that payments made in good faith by the school district on the architect's certificate, as required by the contract, are conclusive. The contractor having defaulted, his default made imperative the contract provisions providing for payment upon the architect's certificates, the retention of certain amounts for paying materialmen's claims, and requiring the contractor be given written notice of default before the owner supplied materials, etc., so far as the liability of the contractor's surety is concerned, especially where the surety's bond was for the express benefit of materialmen. The building contract provided that the contractor should forfeit \$10 daily for delay in completing the work. It was held that the surety was liable for this sum, especially where the entire delay resulted from the contractor's fault before he abandoned the work.—*Texas Fidelity & Bonding Co. vs. Rosenberg I. School Dist.* (Texas), 195 S. W. 298.

#### RELEASE FROM LIABILITY FOR MATERIALS

In an action by a lumber company against an insolvent building contractor and the trustees of a school district for a balance due for materials for the building which was being erected, the Texas Court of Civil Appeals holds that the plaintiff, by his action in refusing to present its account against the contractor when notified to do so by the trustees, stating that it looked to the contractor alone for payment, was estopped from claiming that the trustees were liable for the balance due.—*Rimmer vs. Bay Lumber Co.* (Texas), 195 S. W. 296.

#### MEASURE OF DAMAGES FOR BREACH OF BUILDING CONTRACTS

The rule is that where the contract is substantially complied with and the building is such a one as is adapted for the purpose for which it was constructed and only slight additions and alterations are required to finish the work according to the contract, the defects being remediable at a reasonable expense and without interfering with the rest of the structure, the measure of damages is such a sum as is necessary to make the building conform to the plans and specifications. But where the defects are such that they cannot be remedied without the entire demolition of the building, and the building is worth less than it would have been if constructed according to the contract, the measure of damages is the difference between the value of the building actually constructed and the reasonable value of that which was required to be constructed.—*Gutov vs. Clark* (Mich.), 157 N. W. 49.



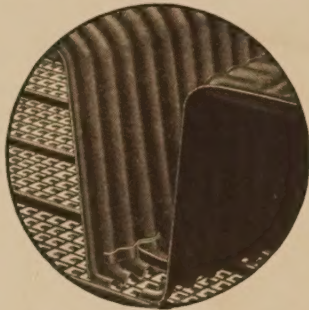




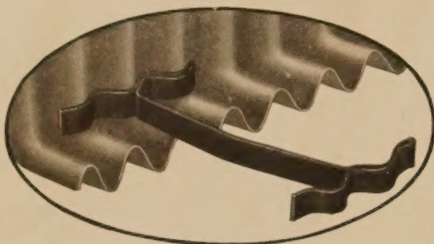
# Floretyle Economy



A stack of 50 Floretyles, handled on a two-wheeled truck, is equivalent in floor construction to 333 terra-cotta tiles weighing over 10,000 lbs.



No Waste of Concrete in Joint Between Floretyle



Accurate Spacing of Joists and Reinforcement

An important point of economy in Floretyle Construction is the handling of 50 Floretyles on a single truck by one man. Compare this to its equivalent in floor construction in terra cotta tile. Picture for yourself 333 terra cotta tiles being handled. The comparison is a surprise in economy.

Only the simplest and most inexpensive centering is required with Floretyle Construction. The saving in material and labor on this one item is immense. Floretyles take the place of heavy masses of concrete and at the same time provide a construction of great rigidity. This greatly reduces the weight of the construction and in buildings with light loads, such as hotels, offices and stores, the savings in columns, girders and foundations will often amount to 15%.

With Floretyle Construction deep joists permit the use of long spans without any intermediate beams. This span will easily cover 50 feet without beams. The beams which support the Floretyle Construction can be readily made the same depth as the floor construction. In this way an absolutely flat ceiling is secured throughout the entire building.

The saving in materials, the large units that are handled, the reduction of field labor, the simple centering and the wide spacing of joists save time in the construction of floors and greatly increase the speed of erection with Floretyle Construction. "Economy is the keynote where Floretyles are used."



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